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WHY THE GENERAL PRACTITIONER SHOULD STUDY THE SURGICAL DIAGNOSIS OF GASTRIC AND DUODENAL ULCER

REPORT OF CASES

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I base my conclusions on 203 successive cases of gastric and duodenal ulcer, of which ninety-three cases came to operation or exploration. The operations were done chiefly by Drs. Craig, Fleming, Freeman, Lyman, and Perkins of Denver, several by other Colorado surgeons, and a few by the Mayos and other surgeons outside of Colorado. To all of these gentlemen I make my acknowledgments, as well as to the physicians with whom I have seen the majority of the cases. Fifty of these cases formed the basis of a previous report.

In the study of this disease we may find, I believe, a greater diversity of opinion among clinicians of experience as to frequency, symptomatology, gravity and treatment, than in the study of any other serious and common ailment. We find in the recent literature excellent reports of hundreds of cases of gastric and duodenal ulcer by the operating surgeons studied chiefly from the point of view of the surgeon, but throwing little light on certain questions of the utmost interest to the medical man. On the other hand, we have long discussions from the medical side giving minute conclusions as to the rarity or frequency of ulcer, as to its symptomatology, as to the danger of obstruction of the pylorus, or the development of cancer, and as to the medical treatment of the disease, with, in many cases, a total disregard of the abundant material which has been furnished us by the surgeons in recent years, and which offers the physician his greatest opportunity for adding to his knowledge of the disease. Many writers offer conclusions freely as to diagnosis and treatment who apparently, from the utter absence of any mention of the matter, have never seen half a score of such patients on the operating table. The moderate number of the cases which I have seen prevents my making any very positive statements in regard to many interesting features of peptic ulcer.

I shall be ready to modify those given when convinced of the need by reports of much larger numbers of cases presented by clinicians of greater experience who see these cases as I do, from the standpoint of the medical consultant, rather than from that of the family physician, the surgeon, or of the gastro-enterologist. In my opinion, one ought to correlate his knowledge of the medical aspects of ulcer with that to be obtained on the autopsy table, and vastly more important, with that from the operating room, and season it all with what wisdom he may have gathered from a wide, general medical experience before being over-positive in his conclusions. I regret my inability to reach any such ideal, but since I have been asked for them, I shall give the best conclusions that my experience permits me to draw.

I should state in advance that these cases were derived from a general consultation practice, not 5 per cent. of them being strictly personal cases. They should not be regarded at all as being Denver cases, since they came from a dozen states. They therefore probably represent a much more severe type of disease than would an equal number of cases seen in a large dispensary service or in family practice. As Jacobi pointed out in the discussion on ulcer in the Section on Practice of Medicine at the last meeting of the American Medical Association, we must be extremely careful not to draw too general conclusions from the study of material drawn from a single source, because severe cases present themselves in one clinic, and mild ones, more nearly representing the general average type, in another.

In a previous article,[1] I drew attention to the great advantage of studying the symptomatology of ulcer from cases in which the diagnosis was established by operation. I undoubtedly erred somewhat in my conclusions, since the milder cases do not come to operation, and their symptomatology should be studied separately.

My further study has confirmed my previous opinion that the symptoms and signs most constant and valuable in the diagnosis of ulcer rank about as follows (taken from previous series):

1. Pain	82 per cent.
2. Persistent sour stomach	80 per cent.
3. Tenderness	70 per cent.
4. Vomiting	66 per cent.
5. Rigidity	60 per cent.

Vomiting of blood occurred in the ninety-three cases with operation seventeen times, or 18.3 per cent.; melena was noted in nine cases, or 9.6 per cent. Thus blood was passed or vomited in approximately 28 per cent. of the series.

I have classed the ulcers, after reviewing my previously reported cases, as gastric, pyloric and duodenal, there being fourteen, sixty-one and fifteen in these respective classes in the complete series, while in three cases in which operation was done elsewhere I did not learn of the exact location.

In twelve of the sixty-one pyloric cases only an obstructing scar of previous ulcer existed. I do not doubt that many of my pyloric cases would be classed as duodenal by many physicians. The overwhelming

1. The Diagnosis of Gastric Ulcer as Tested by Operation, Am. Jour. Med. Sc., May, 1909.

majority of ulcers demanding operation are evidently situated close to the pylorus. In this series obstruction in some degree was present in practically all cases of pyloric ulcer. Many of the definitely gastric ulcers were brought to operation, because of perforation, impending perforation, disability because of adhesions or development of cancer, but not often from dilatation of the stomach.

Cancer was proved in six cases, with definite evidence of ulcer as the starting point, a percentage of 6.4. In several of these, perfectly typical histories of ulcer extended over periods of years. In three other patients the presence of a tumor developing on a previous ulcer was assumed to indicate cancer from the extensive glandular involvement and rapid downward course. Two of these were alive when last reported. No fair-minded clinician without a vastly greater experience on which to base his opinion can properly maintain in the face of such evidence as this, and the reports from numerous surgeons and pathologists, that cancer is not a frequent development in cases of peptic ulcer. The mere fact that in the milder type of cases occurring in average family practice cancer is not often noted is not to be balanced against such showings as I have quoted.

My conclusions, from a study of the previous series, that pyloric ulcer is likely to leave permanent obstruction, if it heals, or to lead to cancer if it does not, is confirmed by my further experience. If medical treatment, which I try faithfully in the milder cases without obstruction, does not give a practical cure in a few months, I cannot conscientiously continue it, nor can I believe it right that advice, from those not thoroughly familiar with the surgical aspects of this disease, to continue medical treatment should prevail. Unfortunately much of the current literature, especially in text-book form, has been promulgated by those who see only the medical aspects of ulcer, and who are, I believe, prejudiced against surgical procedures without proper reason.

Since the introduction of the modern gastro-enterostomy I have seen no case of "vicious circle." The results in sixty-eight of the seventy-nine cases in which gastro-enterostomy was performed are classed as good, and in the more recent ones, better selected than those of earlier years, they are almost uniformly good.

In six cases exploration only was done, cancer or other hopeless condition presenting. Out of six cases of perforation four were closed by suture without gastro-enterostomy, the latter operation being omitted because obstruction did not exist or the patient's condition was too desperate. Three of the patients recovered. In one case Finney's operation was done, one ulcer was excised, and adhesions were broken up in one case. In one case in which operation was done elsewhere I did not learn the exact nature of the operation performed. I am satisfied that we have not excised so many ulcers involving the pylorus as we should, for the tendency is, because the results of gastro-enterostomy are so good, to avoid the heavier mortality involved in excision. I believe that Rodman's operation is demanded if much infiltration exists around the ulcer.

I believe that more attention must in future be given to the group of signs and symptoms which we have considered above, and less to the laboratory findings if we are to make early and correct diagnoses in cases of peptic ulcer. The question in the severe cases is commonly whether to operate or not to operate, and this is never settled in the laboratory. While we should give due weight to the analysis of the gastric contents, the search for occult blood, the leukocyte count, and other laboratory procedures, we should hold all these factors subservient to the history and bedside examination. A reliable history of continuous sour stomach is of more value than a gastric analysis, and a history of hematemesis than a report of occult blood in the stools. Rigidity and tenderness, as determined by the trained clinician, outweigh all the evidence from the laboratory in these cases.

How deceptive the inferences to be drawn in a certain type of gastric disease may be, is illustrated by the following case, not included in the list, the patient being now in the hospital.

A man of 35 had been well until four months previously. Then persistent sour stomach, pain, vomiting and hematemesis came on. I found that he had lost 15 pounds in weight; the stomach was dilated until its lower margin was 3 inches below the navel; splashing was noted, and rigidity and tenderness existed to the right of the navel. The diagnosis of pyloric ulcer was confirmed by the withdrawal of three pints of retained contents after an Ewald test meal, and by the high hydrochloric acidity reported by my assistant, Dr. Love. History, physical examination and laboratory report all pointed to ulcer, yet the glands about the ulcer found at the pylorus were later reported by Dr. W. H. Bergtold to present an exquisite picture of adenocarcinoma. The great thickening about the ulcer had already led Dr. Leonard Freeman and me to the conclusion that only very extensive resection of the stomach offered any hope, and he therefore had resected more than half of the lower end of the organ and removed all of the enlarged glands. This patient is now gaining a pound a day.

To those who advocate medical treatment in pyloric ulcer I commend a careful consideration of this case, for I fully believe that any but immediate surgical treatment would have been criminal. I could mention several more or less similar instances in which the persisting ulcer apparently kept up the high acidity long after cancer had developed. We must not exclude cancer because of laboratory reports pointing toward ulcer if we are to do justice to these patients.

Fortunately the evidence on which the decision as to operation in gastric diseases is based is of such a character that we need not hesitate to act on it. In these cases I have found ulcer when I suspected cancer, and cancer when I suspected ulcer to be present; pyloric obstruction from other cause than either ulcer or cancer; gall-bladder disease when duodenal ulcer was suspected and many other conditions more or less different from what I had believed to exist, but I have yet to see the abdomen opened in a case with such a general symptomatology as I have indicated above without finding a surgical condition demanding relief, or else so far advanced as to be beyond help. We do not operate in these cases for ulcer or for cancer, but for some condition, whatever it may be, which we believe to be beyond medical help. The indications which lead the trained clinician to explore the abdomen do not often deceive him, for they fortunately are not present in neurotic, hysterical, tabetic and other patients who have made so much trouble in the past as to gastric diagnosis.

In deciding on the advisability of medical or surgical treatment in any given case of peptic ulcer which has attained a sufficient degree of severity to lead to the consideration of the latter method, we may state the advantages of medical treatment about as follows:

1. Avoidance of immediate operative and anesthetic dangers.

2. Avoidance of possible vicious circle, recurrence of jejunal ulcer, ventral hernia, post-operative adhesions, etc.

Against these advantages we should set the following dangers:

1. Likelihood of failure of medical treatment.
2. At least an even chance that the patient will relapse if temporarily cured.
3. Dangers of development of pyloric stenosis through presence of an active ulcer at that point, or spasm caused by its irritation, or cicatricial stenosis following its healing.
4. Danger of hemorrhage or acute perforation.
5. Danger of the development of cancer on the base of the ulcer (68 per cent. of the pylori excised by the Mayos for cancer showed origin in an ulcer, while 71 per cent. of those excised under the belief that they were cases of ulcer showed cancerous changes beginning. Wilson). Nearly 10 per cent. of our patients operated on showed cancer.
6. Danger of adhesions, which cripple the action of the stomach, obstruct the gall-passages, produce serious pain and often require late operation.
7. Dangers from a troop of late complications of slowly developing perforation, amongst which I have encountered peritonitis, subphrenic abscess, empyema, pyopneumothorax, pneumonia, perforation through the lung, septic pericarditis, mediastinitis, pancreatitis, suppurative processes about the liver and gall-ducts and general sepsis. Unfortunately many cases are reported under such headings without a recognition of the origin of the process in a peptic ulcer.
8. The development of such a condition of anemia and malnutrition from the crippling of the digestive apparatus as to lead to neurasthenia, hysteria, and various functional nervous diseases, or to pave the way for an easy and often fatal infection by the tubercle bacillus, pneumococcus, influenza bacillus, etc.

In my opinion the medical man does not do justice to his patient in such cases as we are considering if he does not present to him clearly the grave dangers of delay if prompt improvement does not follow medical treatment. The latter should be given a fair trial for several weeks, but if practical restoration to permanent health be not obtained, operation should be most carefully considered. Fortunately, the truth of Billroth's saying of thirty years ago that "internal medicine must become more surgical," is gradually receiving recognition.

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REPORT ON SIXTEEN SYPHILITIC PATIENTS TREATED WITH EHRLICH'S SALVARSAN (606)

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In September Dr. Simon Flexner of the Rockefeller Institute sent us a supply of Ehrlich's salvarsan (606), to be used for experimental purposes. The cases that we have selected for treatment with this remedy belong to unusual types and to those rebellious to the usual methods of treatment. The routine followed in every instance included a preliminary examination of the eyes, the nervous system, and a complete physical examination by competent specialists. Complete urinalyses, differential and leukocyte counts, and the Wassermann reaction were made before and after each injection. In a majority of the cases the injections were made according to Wechselmann's method. The Junkermann method was used in the later cases, however, following instructions from Dr. Flexner. A few of the patients treated by injections according to Wechselmann's technic required a small dose of morphin to relieve the pain. In all in whom the Junkermann method was used the injection was preceded by hypodermic of ¼ grain of morphin, and in every case a second dose of morphin was necessary to relieve the severe pain, which usually lasted from ten to twelve hours. Those injected after the Wechselmann method suffered only a moderate amount of pain and in only one case was it severe and lasting.

CASE REPORTS

CASE 1.—The patient, M. Q., a man aged 22, seen at the Skin and Cancer Hospital, was infected with syphilis four years previously. Treatment had been irregular, and followed only when lesions were present. The patient entered the hospital in June, 1910, at which time he had a large tubercular ulcerating syphilid involving the upper two-thirds of the right forearm; another 8 inches in diameter on the leg, and an ulceration of the inner surface of the left nostril, one inch in diameter. The patient was treated with mercuric bichlorid injections daily for ten months; also by local treatment of mercuric bichlorid packs, various salves, and milder dressings. Very little improvement resulted. He was then given injections of a 10 per cent. salicylate of mercury mixture once or twice a week up to saturation, together with iodids, forced feeding, and rest in bed for a month.

Improvement was noted for a time, the lesions showing some tendency to heal, but only temporarily. Oct. 6, 1910, the Wassermann reaction was still positive. The ulceration on the forearm was 2 inches in diameter, the one on the leg was 5 inches, and the one in the nostril was the size of a nickel. The urine was normal; the leukocyte count was 16,000. Oct. 6, 1910, the patient was given 0.6 gm. of salvarsan under left scapula according to Wechselmann's method. Considerable pain followed, lasting about twelve hours. The next day the site of the injection was infiltrated, slightly painful, and presented a tumefaction 4 inches in diameter.

Four days later the ulceration in the nose had healed entirely, and the ones on forearm and leg showed marked improvement. Twelve days later, the forearm was healed and the leg ulcer was only 2 inches in diameter, and healing rapidly. The Wassermann reaction was still positive, but eighteen days after injection it was negative, and all of the lesions had entirely healed, and the patient's condition was wonderfully improved. November 15 he was discharged from the hospital apparently cured. December 7 the patient felt well and had gained 12 pounds. The leukocyte count was 8,000.

CASE 2.—M. L., a girl aged 6, a patient of Dr. Blair, was treated at the St. Louis Children's Hospital. July 27, 1910, an ulcer was noticed on the left side of the soft palate, which increased rapidly in size. Injections of cyanid of mercury were continued for three days in increasing doses. August 15 a small indurated gummatous lesion appeared on the right thigh. In the next few days several small lesions appeared on the extremities. All of them became ulcerated, and increased rapidly in size within a few days. The mercury injections were increased, but the cutaneous lesions grew worse.

September 8 the injections were discontinued and 1/10 grain doses of calomel were given three times a day, with increased doses of potassium iodid. September 30 the pupils became widely dilated, the patient could not see, was very restless, stammered in speech, and cried continuously. She developed tetanic convulsions that night, and morphin was used. October 1 there were muscular twitchings, retraction of the head, rigid spine, unequal pupils, Cheyne-Stokes breathing, weak and irregular pulse. Mercury inunctions were begun and potassium iodid given by enteroclysis. October 3 the symptoms of October 1 had nearly disappeared; October 5 the Wassermann reaction was positive. A thorough physical examination was made preparatory to the administration of Ehrlich's salvarsan, with the following results: Weight 42 pounds; scars over the extremities, some of them rather pinkish in color, showing recent healing. There was swelling and induration of the right cheek, several ulcers on the mucous membranes of the

mouth. The child was very weak and pale, and cried continuously. The pulse was weak and rapid; there was a foul, unbearable odor emanating from the mouth; heart and vital organs normal. Examination of the eye by Dr. Charles showed pupils dilated and maximum and absolutely irresponsive to light but child was blind from some central disturbance. The fundus was normal. Neurologic examination by Dr. Bliss showed knee-jerks present, no Babinski of ankle-clonus; organic reflexes normal, cutaneous sensibilities acute. October 6, 0.15 gm. of salvarsan was prepared by the Wechselmann method and injected into the cellular tissue under the left shoulder. The temperature was 99, respiration 26 and pulse 132, some hours before the injection. The leukocyte count was 12,000. The patient was miserable and restless, and morphin was administered during the night. No albumin or casts were found in the urine.

October 7, there was a moderate amount of swelling at the site of injection; no albumin or casts; right cheek more swollen; temperature 100; pulse 152; leukocyte count 18,000.

October 8, patient was very restless, pulse 120; respiration 32; temperature 102; leukocyte count 31,500; casts and albumin; odor from mouth worse.

October 9, there were albumin and casts in urine, leukocyte count, 33,600; extremities cold; scar tissue at site of healed ulcers had sloughed, leaving deep ulcerations; urine and stools involuntary; stimulants administered.

October 10 to 13, great improvement; patient sitting up in bed; some diarrhea; pupils reacted to light; exudate from ulcers; crying and moaning ceased.

October 14, pupils reacted to direct and consensual light; ulcers improving rapidly, both on the skin and in the mouth.

October 16, swelling of right cheek much less; stool semisolid; appetite good; leukocyte count 18,200; albumin and casts.

October 17, patient voluntarily stated that she felt much better; great improvement was evident; much less odor from mouth.

October 27, temperature 98; pulse 90; respiration 22; patient counted fingers with either eye at 20 feet; cutaneous ulcers healed; patient walked about room and was gaining in weight; there was still a free flow of saliva; leukocyte count 10,000; albumin and casts.

November 4, a thorough physical examination was again made; all skin ulcers healed; two small ulcers on mucous membranes of gums not yet healed; heart normal; digestive tract normal; no albumin or casts; leukocyte count 8,200; neurologic examination normal; pupils equal and responded to light and accommodation; vision normal.

November 15, mouth was entirely well, except small ulcers on gum which were healing slowly; no albumin or casts. The patient seemingly well.

CASE 3.—I. B., a City Hospital patient, aged 38, was infected with syphilis fifteen years previous to being seen, since which time he has taken treatment at irregular intervals. Since June, 1910, the patient has had tubercular ulcerating syphilis of both sides of the nose; hard palate and septum both perforated; the septum ulceration still showed activity. He was treated with daily injections of mercuric bichlorid, iodids internally, and various local applications until October 6, with very little benefit. Oct. 6, 1910, physical examination showed no abnormalities except nose lesions and purulent discharge from nose and pharynx; urine normal; leukocyte count 17,000; Wassermann reaction positive. Injection was made of salvarsan, 0.6 gm., after the method of Wechselmann, subcutaneously under the left scapula. Three days later the ulcers on the nose showed marked improvement. No temperature or pulse reaction followed and the urine remained normal. Improvement in the ulcers continued rather slowly for four weeks, when they became active again, and in two weeks more were slightly larger than when the injection was given, and involved adjoining scar tissue that had been produced by mercurial injections. Seven weeks later the Wassermann reaction was positive. A second dose of salvarsan, prepared according to method of Junkermann, was injected into each buttock. Urine normal; leukocyte count 11,335. December 2 the ulcerations greatly improved and showed a tendency to heal; leukocyte count 10,925; urine contained no albumin but contained a few granular casts. December 12 the ulcers were healing rapidly; leukocyte count 12,000.

CASE 4.—E. G., a City Hospital patient, a man aged 29, was infected with lues in March, 1910, and entered the hospital in June. Examination showed a slight protrusion of bone over the sternum, extremely sensitive to the touch, which was present for two weeks; reflexes normal, except for general hyperesthesia; lymphatic glands in the axillæ, epitrochlear and inguinal regions showed some enlargement. October 6 the Wassermann reaction was positive; urine normal; leukocyte count 14,800. Injection of salvarsan, 0.4 gm., was made subcutaneously under the scapula, after Wechselmann's method.

Five days later the patient's general condition was greatly improved and there was less pain over the sternum; urine normal; leukocyte count 18,200; no temperature or pulse reaction; site of injection somewhat painful for 12 hours; tumefaction present at injection site; Wassermann reaction positive. One month later his physical condition was fine; site of injection still indurated, though not painful, and consisted of a slight elevated discoid mass three inches in diameter. There was a superficial necrosis appearing on the glans penis. The patient had never had a lesion on this area. He had gained 7½ pounds, and was up to normal weight; his general condition was very good. Six weeks later the lesion on the glans had become much deeper, larger and phagedenic in character; urine normal; leukocyte count 14,300.

Seven weeks later the ulceration on the glans was quite deep. A piece excised and prepared according to Levaditi's method shows no *Spirochæta pallida;* Ducrey's bacillus not found. The patient did not feel well and had pain in right humerus; the sternum was slightly painful again; *x*-ray picture showed periosteal thickening of middle of shaft of humerus and some involvement of medullary portion. Eight weeks later the ulcer on the glans was healing; Wassermann reaction positive; urine normal; leukocyte count 13,650.

CASE 5.—F., a man aged 45, seen at the Jewish Hospital, referred by Dr. S. I. Schwab, had been infected with syphilis nine years previously, had very pronounced secondaries, and was treated for several months. He was well until five years before the time of examination, when his present trouble began. The patient was well developed and his color and nutrition were good; expression depressed; answered questions intelligently, but slowly; eyes showed diffuse swelling of lids; redness and tenderness over right supraorbital region. Urinary incontinence was present at times; there was vertigo and double vision, and occasionally patient complained of continuous pain and tenderness in muscles, with marked weakness for the previous four years. Both legs had been swollen lately, with tenderness over tibiæ; pain in chest; trunk rigid when walking; frontal headache on right side; all reflexes exaggerated. The spleen was slightly enlarged, and felt one-half to 2 inches below costal margin. On each tibia was an elevated hard mass 4 inches long and 2 inches wide, somewhat reddened and tender. The urine contained few casts. October 10 injection was made of 0.4 gm. of salvarsan after the method of Wechselmann. Four days later there was less pain in chest and tibiæ and the tibial tumors were smaller. Ten days later there was marked improvement; redness and induration of tibiæ nearly gone; no pain in chest; no albumin or casts in urine. Fifteen days later the patient felt fine; there was no pain in chest or over tibial nodules. The skin over tibiæ was loose; there was no pain, but the bone was still enlarged and rough; leukocyte count 9,800. Spinal fluid showed no cellular elements and was clear. The patient was discharged from the hospital on request, apparently well. The Wassermann reaction was positive.

CASE 6.—K. M., aged 25, a patient at the Skin and Cancer Hospital, gave no history of syphilis, but stated that her present lesion began on the right side of the nose as a small red papule four years previously. In July, 1910, the lesion consisted of a deep ulceration which had destroyed the lower right half of the nose and adjoining cheek for a distance of 1 inch, and almost the entire upper lip. The remaining sep-

tum was ulcerated and the superior maxillary bone necrosed, exposing the upper incisors and right canine in their entirety. The ulceration was granulomatous and there was a considerable discharge of pus.

Physical examination revealed no abnormalities; urine was normal; leukocyte count 8,000; Wassermann reaction positive. The patient had been treated weekly with intramuscular injections of 10 per cent. salicylate of mercury with some improvement.

October 25, injection was made subcutaneously of 0.6 gm. of salvarsan under the left scapula, after the method of Wechselmann. The pain lasted two hours; leukocyte count was 12,000 twenty-four hours later. Six days later the patient felt fine and the lesion looked much better; discharge less; healthy granulations in ulceration; leukocyte count 7,500. Four weeks later the ulceration of the nasal membrane had healed, but the edges of the skin of the nose showed pearly epithelial proliferation. Five weeks later, sections excised from the edge showed the lesion to be an epithelioma. The teeth became much more firmly set in the alveolar processes; necrosed bone exposed; the nasal ulceration was healed but an epithelioma had developed on a syphilitic ulceration and *x*-ray treatment of the epithelioma was begun; leukocyte count 8,665.

CASE 7.—A. D., a woman aged 52, a patient of Dr. Grindon, had had good health until five years previously. Then she began to have nocturnal headaches, continuing for three years with great loss of weight. Lesions on trunk and extremities appeared in August, 1909, which left scars characteristic of syphilis. The patient had active lesions on her face which appeared in January, 1910, and which extended and continued to appear as tubercular ulcerations with crusting, rupial lesions over the entire face. The lids were much swollen, closing one eye completely; puffy and everted; nose and chin were infiltrated and cheeks present a mass of tubercular syphilis. On removing the crusts the underlying surface was of deep raw-ham tint, superficially ulcerated at many points. Pharyngitis and characteristic congestion of the anterior pillars were present. The patient had been under treatment at irregular intervals. October 30, the Wassermann reaction was positive; urinary examination negative; heart normal. November 3, leukocyte count 12,500; 0.5 gm. of salvarsan was injected under the scapula by Dr. Engman after method of Wechselmann. November 4, leukocyte count was 13,200; November 5, it was 12,000; four days later it was 12,000; Wassermann reaction positive; marked improvement of lesions. The infiltration had practically disappeared; outline of eyelids and lips was normal; discoloration as deep as ever. Two weeks later the patient was transferred to out-clinic. The discoloration was much less; no other remaining evidence of disease except scars on forehead and nose. Eighteen days later the Wassermann reaction was positive; discoloration fading, semifluid mass at site of injection slowly disappearing; no pain.

CASE 8.—G. McD., a man aged 24, a patient at the Skin and Cancer Hospital, applied for treatment in 1909 for scaly lesions on nose, eyebrows, elbow, neck and shoulders and was treated for two months with intramuscular injections of mercuric bichlorid after which most of the lesions disappeared; stopped treatment and a relapse of the lesions occurred within a short time. He stated that his treatment had been irregular, because a cessation of treatment had always been followed by an immediate relapse. Nov. 6, 1910, he entered the hospital, at which time all of the former erythematous, papulo-tubercular and scaly lesions were again active. The lesion on the right elbow was ulcerated and there were small ulcerations of the nasal septum. The patient's physical condition was otherwise normal; urine normal; leukocyte count 13,000; Wassermann reaction positive. The patient was given 0.5 gm. of salvarsan after the method of Wechselmann. In preparing the mixture the salvarsan was dissolved in 0.1 per cent. sodium hydroxid solution instead of 20 per cent. In neutralizing, a large amount of sodium hydroxid was necessary, so that there were 30 c.c. of the mixture. This was injected subcutaneously under each scapula, November 8, and was followed by considerable pain for several hours at the site of the injection. Morphin gave relief. There was no pain twenty-four hours later; sites of injection were elevated and indurated; lesions paler. Leukocyte count was 17,650; urine normal. Eight days later sites of injection were infiltrated, but not painful; lesions on face nearly gone; patient said he felt better than he had for several years. Fifteen days later most of the lesions had entirely disappeared, and the patient had gained 6 pounds. Three weeks later all lesions were entirely well except the ulcer on the elbow, which had healed, and the only remnant of lesion was an erythematous, thin scar. The improvement was striking; Wassermann reaction positive; urine normal. Four weeks later the patient was apparently cured. The leukocyte count was 8,200 and the Wassermann reaction positive.

CASE 9.—Baby P., a bottle-fed private patient, referred by Dr. Doyle, was first observed Oct. 3, 1910, when she was 11 weeks old. The entire body was covered with an erythematous, scaly, macular eruption. The neck, trunk, and especially the genito-crural regions, were involved in confluent patches of the so-called luetic eczema. Both ears discharged pus, showing middle-ear involvement. The mother stated that the eruption had appeared two weeks after birth. The ear affection appeared a week before observation. The child's face had the characteristic, wrinkled, "old-man" appearance; she had "snuffles," and presented a typical congenital secondary syphilis. The Wassermann reaction, however, was negative. In view of the clinical diagnosis, inunctions were prescribed, and followed by immediate improvement in the general condition; the ears became well and the eruption disappeared rapidly. The inunctions were too irritating after a week, and powders containing one-half grain of mercury with chalk were given three times a day. The improvement was rapid, and the eruption disappeared without local treatment.

November 18 it was decided to give the patient salvarsan. At this time there were no skin symptoms of lues. The injection was prepared after the Wechselmann method, and 0.1 gm. was injected subcutaneously under the left scapula. Two days later there was a large elevated tumor of infiltration as large as a guinea-egg. The general condition remained good, except that the tumor from the injection was large and red at times, raising and receding. Twelve days later the tumor was as large as ever and the baby was very fretful. The temperature varied from 100 to 102 F. The tumor showed some infiltration, though there was no central softening. The luetic lesions showed no signs of recurrence.

On December 1 the nodule showed fluctuation and was incised. A small amount of fluid blood and pus was discharged.

December 6 the site of the injection was an elevated, indurated infiltration, 2 inches long, 1 inch wide and three-fourths of an inch high. The edges of the incision wound showed the mass to be organized, hard, and with no tendency to heal. The mother stated that there was constant constipation, relieved only by enemas, and that the general condition was not very good. Sleep was irregular, and at times considerable perspiration appeared over the forehead and scalp. Crying was paroxysmal. Nourishment was taken from the bottle at regular times. There was no indigestion.

December 12 there was marked improvement in the general condition. The site of the injection was still open; the discharge was serous.

CASE 10.—A. J., a private patient, aged 2 months, referred by Dr. Henckler, was first examined Nov. 13, 1910. The baby was covered with an universal, typical, macular eruption of syphilis, was very much emaciated and presented the characteristic "old-man" appearance, with "snuffles." The baby was born with the eruption on the hands, and moist papules around the anus. The Wassermann reaction was positive only to moderate degree. The baby was practically in a dying condition when first examined. Mercury with chalk was given three times a day for five days and some improvement was noted. November 18 it was decided to give an injection of salvarsan. Accordingly, 1 c.c. of a 6 c.c. mixture of 0.4 gm. prepared after Wechselmann's method, was injected subcutaneously under the left scapula. The baby was so emaciated that there

was no subcutaneous tissue at the site of injection. It was first decided to give the treatment to the mother, but the child was in such a bad condition that it was deemed advisable to treat him directly to save time. The patient died twenty-four hours after the injection and a necropsy was not obtainable.

CASE 11.—W. McG., a man, aged 25, referred by Dr. Urban, was infected with syphilis, April 1, 1909, and put on treatment within two weeks. Three weeks later the secondaries appeared; three weeks after this, destructive tubercular ulcerations began to appear over his face and body, showing a rapid and malignant lues.

The patient then went to Hot Springs, Ark., where the lesions all healed under inunctions, after a seven weeks' course. The tubercular ulcerations reappeared in a short time, and when he was first observed at the City Hospital in February, 1910, most of his body was covered with large and small papulo-tubercular lesions and ulcerations. A course of injections of bichlorid cleared up all the lesions; but two months prior to admission they began to appear again at the old sites.

November 28 he had two large lesions 4 inches in diameter on the left arm, another on left thigh posteriorly, and a few smaller ones on the chest and back. The middle turbinate on the left side had sloughed away. He was pale and rather weak. The urine was normal. Physical examination showed no visceral lesions; leukocyte count 11,350; Wassermann reaction positive. An injection of 0.5 gm. of salvarsan, prepared after the method of Junkermann, was given in the buttocks, preceded fifteen minutes by an injection of ¼ gr. of morphin. The pain was immediate and very severe. A second injection of ¼ gr. was given and morphin was again necessary one hour later. Twelve hours later his temperature had risen from normal to 102 F., the pain had disappeared and he was comfortable. He stated that all of the active lesions had a peculiar tingling, burning sensation, some of them being somewhat painful.

November 29 all of the active lesions, which had only shown superficial ulceration, with much crusting, were now red, deeply ulcerated, and there was considerable reactionary inflammation. Four days later all of the active lesions, except the one on the chest, which was much paler and less infiltrated, had sloughed, with a large amount of débris and pus discharge. He gained 5 pounds in weight in four days. Six days later the leukocyte count was 15,850; urine normal. The lesions were all healthy-looking granulating surfaces, with little or no infiltration. Daily improvement was rapid and marked. The urine was normal. Nine days later the surfaces of ulceration on the arm were quite red and apparently granulating. Close inspection showed the surface to be covered with a very thin film of epithelium as though the granulating surface had been painted with a weak solution of silver nitrate. Within twenty-four hours the thin epithelium covered the entire former ulcer, which was 3 inches in diameter, apparently not growing from the periphery, as is usual in the healing of this variety of ulceration. The patient on his discharge had gained 7 pounds in ten days.

CASE 12.—A man, aged 31, a private patient, had been infected with syphilis seven years previously. Eighteen months before examination squamous syphilids appeared on the thumbs; six weeks before examination typical papular, scaly syphilids developed on his nose and chin. Scaly, squamous lesions were still present on his thumbs. Physical examination revealed no abnormalities; urine was normal; Wassermann reaction positive; leukocyte count 9,900. November 17 an injection of 0.5 gm. of salvarsan was given after the method of Junkermann. The pain was very severe for twelve hours. Ten days later the lesions were nearly all healed. The Wassermann reaction was positive.

CASE 13.—S., aged 40, was referred by Dr. Unterberg with a diagnosis of tabes dorsalis. Examination revealed the following: first nerve normal; third, fourth and sixth unequal; pupils reacted slightly, if at all, to direct light, consensually or to accommodation; ocular excursions normal; fifth nerve, bilateral hyperesthesia over the nose and forehead; eighth nerve normal; seventh, facial innervation equal on both sides; sense of taste dull over entire tongue; tongue deviated to right on protrusion; other cranial nerves normal. Spinal nerves, cervical normal; dorsals, area of hyperesthesia on left side between third and sixth ribs, and over the abdomen in a belt extending from the lower margin of seventh rib to 2 inches below umbilicus; abdominal and cremasteric reflexes not obtainable; sensation of right leg good; left leg markedly delayed—one to two seconds; knee-jerks and Achilles reflex absent; no Oppenheim, Gordon or Babinski; movements incoordinate; Romberg sign present; Wassermann reaction positive; urine normal; leukocyte count 8,000. An injection was given of 0.5 gm. of salvarsan, after the method of Wechselmann. Five days later the patient suffered very little pain; general condition somewhat improved. There was no change in the tabetic symptoms. Two weeks later there was no improvement.

CASE 14.—W. S., aged 19, seen at Alexian Brothers' Hospital, was admitted to the hospital with a chancre on the prepuce, generally distributed maculopapular syphilid on face and body, intense throat symptoms, with great swelling of glands of neck and lymphadenitis in both inguinal regions. The patient was placed on inunctions daily for two weeks and the symptoms were slowly improving. Nov. 17, 1910, the throat symptoms, lymph-nodes and papules were still marked. At 4 p. m. the patient was given 0.4 gm. of salvarsan, after the method of Wechselmann. There was no pain for two weeks, after which the pain became very severe and the area at the point of injection very red. The following day pain continued, the face was flushed, and the area of injection had become very hot and painful to the touch. The pupils were dilated; patient had a diarrhea and temperature reached 100 F. The urine voided was in excess, turbid in character, and contained a large amount of precipitate of earthy phosphates. On the third day red blood-cells were present in the urine; the pain had subsided; the patient stated that he felt better than he had for two months; his expression was alert, skin perfectly clear; the entire eruption had disappeared over night. On the sixth day the Wassermann test was negative; throat symptoms had subsided; enlargement of glands was disappearing, the patient felt well and was discharged.

CASE 15.—G. R., aged 28, was referred by Dr. Lutz with a diagnosis of taboparesis. He had acquired syphilis seven years previously; no secondaries followed, and he had no internal treatment. Five months before he was seen by us he developed lightning pains in the legs, perineum, penis and testicles. Headaches were very severe during the last six weeks. The pupils were immobile to light and accommodation. Injection was made of 0.5 gm. of salvarsan on November 17, after the method of Junkermann. Examination showed Argyll-Robertson pupils, exaggerated knee-jerks, more marked on the right side, loss of pain-sense below the knee, retention of tactile sense below the knee, anesthetic cuirass 4 inches wide at the nipple-line; gastric and rectal crises and lightning pains; a slur in the speech, and the mental symptoms of incipient paresis. Two weeks later the patient showed no improvement.

CASE 16.—Mrs. C., aged 35, patient of Dr. Fischel, was referred with a diagnosis, made by exclusion, of syphilitic ulcers of the stomach. There was a definite history of syphilis, acquired three years before. Physical examination revealed no visceral lesions. Her symptoms were frequent vomiting, at times tinged with blood, and occult blood in the stools. The Wassermann reaction was positive; leukocyte count 9,000; urine normal. Injection was made October 16 of 0.5 gm. of salvarsan under left scapula after the method of Wechselmann. There was great local reaction, and two weeks later the site of the injection sloughed, leaving an ulceration the size of a dollar. Cultures from the lesion were sterile. Vomiting ceased within two weeks, and the blood disappeared from the stools. If the ulcers were syphilitic, they evidently became well in two weeks. The leukocyte count was 7,600 the next day after the injection. The history in this case is not as complete as it should be.

One is not justified, perhaps, in drawing conclusions from the observation of sixteen cases, but the following comments may be made:

The baby, two months old, who died twenty-four hours after receiving the injection was practically dying at the time, and the treatment was not responsible for its death.

Patient 3 (I. B.) was the only one to whom a second dose was administered, the first evidently not being large enough to kill all the spirochetes. He then made rapid improvement. Patients in whom lesions were quite active showed leukocytosis, which became more marked in from twenty-four to forty-eight hours after the injection, gradually returning to normal in from two to four weeks.

Patient 2 (M. L.) developed nephritis, which soon cleared up without special medication.

Patient 14 (W. S.) had blood-cells in his urine, following the injection, but they disappeared in a few days.

The two patients with nerve syphilis, Nos. 13 and 15, returned for observation later and were undoubtedly worse than they were before the injections.

In Cases 9 and 16, the injections produced sloughing. The slough in Patient 16 healed nicely three weeks later. In Case 9, the incised tumor discharged sterile serum, but was very slow in healing.

The pulse and temperature reactions were slight, with but one or two exceptions. None of the patients showed symptoms of arsenical poisoning.

In those showing marked improvement, the gain in weight in some instances was striking.

To be perfectly fair, except in Case 2 (M. L.), we have seen equally as rapid disappearance of skin manifestations from the use of injections of mercury; but several of the cases herein reported seemed to be rebellious to mercury. Reasoning from analogy and our knowledge of chemical therapy, a certain per cent. of cases will also, no doubt, prove rebellious to Ehrlich's remedy; but no matter how many may prove rebellious, it has a remarkable effect on the cutaneous manifestations of syphilis.

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THE DIAGNOSIS OF OPERABILITY OF CARCINOMA OF THE UTERINE CERVIX*

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Operability is a condition dependent on the operator as much as on the patient. This obtains as much in operations for fibroids as in operations for carcinoma. What to one operator is an inoperable fibroid, presents to the other a moderately difficult task. In carcinoma the personal factor enters even more into the determination of operability. I know of surgeons who refuse to operate in any case of carcinoma of the cervix; others who will do only operations which have a low primary mortality; others again whom no amount of primary mortality can deter from the most desperate attempts. Each one of them has his own conception of operability, which, expressed in figures, would vary between zero and 80 per cent. of all cases.

Operability to one surgeon appears to be the condition in which it is possible to take out the carcinomatous uterus. Such a surgeon would probably have a percentage of operability approaching 80 per cent. Other surgeons have no faith in surgical operations for carcinoma, either because they have not operated sufficiently extensively and have had a shocking number of recurrences, or have done poor surgery and have had a mortality following their operations which precluded further efforts on their part. This class sometimes hides behind the oft-repeated statement that it is no use to operate on carcinoma anyhow, because in those cases that were really carcinoma recurrence always follows and those in which recurrence does not take place were not really carcinoma, microscopic diagnosis nothwithstanding.

To find some foundation on which to base a scientific discussion, it is necessary to recall a few generally accepted results of clinical experience and pathologic investigation.

First, the diagnosis of carcinoma must be based on microscopic evidence. This evidence, I am happy to say, is now so generally accepted that the statements concerning microscopic diagnosis which a few years ago resounded from prominent rostrums need no further refutation. It is sufficient to repeat that it is not the microscope or the stain or the method of imbedding or cutting which makes the diagnosis, but the man who looks through the microscope.

Second, in cases which have been diagnosed as carcinoma by reliable microscopic investigation the patients have been cured by operation in numerous instances and have remained cured for many years after the operation. Therefore it is certain that cases of carcinoma can be cured by operation.

INDICATIONS AND CONTRA-INDICATIONS FOR OPERATION

The cases which give the best chances of a complete cure by operation are the cases in which the carcinoma is small and limited in extent. These cases give the best chances because the operations can be done in freely movable tissues and without sepsis being present in the field of operation; therefore with low primary mortality. Furthermore, the chances of removing all of the carcinoma are good, therefore the remote results are satisfactory.

The cases which give the most unfavorable results are those in which the carcinoma has involved the tissues extensively, and in which infection of the disintegrating tissue has taken place. These cases are bad risks for both primary mortality and remote results.

It is evident that every carcinoma has a stage when it is in its beginning and when its operative cure would be safe and lasting. It is regrettable that only a pitifully small percentage of such cases reach the operator. Somebody is to blame in every case in which this stage has been allowed to pass unrecognized and unoperated. If we are charitable, we are willing to assume that in most cases the patient herself is to blame, who through ignorance, superstition, fanaticism or fear commits suicide by the carcinoma route. If we are less charitable and more inclined to criticism, we remember the many cases in which the physician is to blame who fails to make the diagnosis.

Once this ideal stage of carcinoma, if I may so call it, is passed, the carcinoma patient reaches a condition in which many factors enter into the determination of her chances and in which conscientious and able surgeons may vary widely in their individual opinions.

This much we may hope to maintain, that every operation for the removal of carcinoma is undertaken with the hope and intention of removing all of the carcinoma, and that any operation which fails to remove all of the

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carcinoma is a failure, whether the patient survives it or not. If the patient survives an operation for carcinoma which fails to remove all of the carcinoma, her condition is not essentially different from that of the woman whose carcinomatous uterus has not been removed, but only curetted and cauterized. And the chances of the two are nearly equal as far as length of life after the operation is concerned (an average of eighteen months with wide, but exceptional, variations above and below that average).

There is no question that with modern methods of hemostasis it is possible to remove almost any uterus affected with carcinoma, but it is also beyond question that this kind of operation is a perfectly useless sort of tight-rope performance; and, let it be understood clearly, it is the patient who must walk the rope, not the surgeon.

When it appears impossible to eradicate the disease completely by operation, the patient is better off with a simple palliative operative treatment. Palliative slight operations achieve nothing but a mitigation of the living death, but they do not render surgery abhorrent to the next patient who may be a good risk.

From what we know about the lawless ways of carcinoma of the cervix, it becomes clear that the more of the tissue surrounding the original seat of the carcinoma is removed the greater the chances of removing all of the carcinoma and of accomplishing a lasting cure. Unfortunately, the primary mortality increases in direct ratio with the extent of the operation. Furthermore, the cervix is in a particularly unfavorable location for wide excision of the surrounding tissues. In general we desire to keep at least an inch from the carcinoma in our operations. Who can do that in the structure attached to the cervix in front, the bladder? And who has the courage to advise complete removal of the posterior wall of the bladder with resection and reimplantation of the ureters in every operation for carcinoma of the uterus? Furthermore, the extension of the carcinoma of the cervix along the lymphatics is particularly treacherous, the paths leading underneath the apparently intact vagina, sometimes to considerable distances, and through apparently intact broad ligaments to lymphatic glands inside and outside the pelvis.

With all these obstacles which threaten our results, we must keep in mind that the farther away from the primary carcinoma we keep with our excision, and the farther away from the primary carcinoma we head off the outposts of the carcinoma the greater the certainty of a lasting result.

OPERATION

The operation which I have had the honor to propose to the profession in 1895, and which has since been modified and moderated and variously called the extensive Freund operation or the Wertheim operation, was the result of these and similar considerations. The intention was to keep as far away from the primary seat of the carcinoma as possible, to remove not only the primary carcinoma, but all of the surrounding tissues to an extent which would include the most probable first metastatic outposts, and at the same time to evolve a technic which would give a fair chance to the patient to survive the necessarily extensive operation. My first imitators had a mortality which soon made them more conservative, and at the present time, as far as I can ascertain, I am still the most radical operator, with the result that all of the patients who have left the hospital after a complete operation are to-day alive and free from pelvic carcinoma.

SUMMARY OF RESULTS

I have treated between 1897 and the end of 1909 33 patients with carcinoma of the cervix. Eleven of these were too far advanced for anything except palliative treatment. Of the 22 operated on 8 died from the operation, 2 from hemorrhage, 2 from the anesthetic, 4 from septic conditions. Of the 14 surviving the operation, 2 were operated on incompletely, the operation being interrupted when it was found impossible to complete it. Of the 12 with completed operation, one on examination of the specimen proved to be carcinoma just above the cervix and therefore belongs among the carcinomas of the body. One patient whom I reported to the Boston meeting of the American Medical Association as having had a recurrence in the external inguinal glands under the skin nine years after the first operation, I lost track of one year after the second operation. She was therefore alive ten years after the first operation. She belongs to the submerged stratum of society and I have little hope of finding her again. The 10 known survivors were operated on as follows: 1908, one; 1899, one; 1900, one; 1901, two; 1903, one; 1906, one; 1908, one; 1909, two. The number is so small that it is hardly worth while to figure out percentages. Suffice it to say that out of 17 who came to treatment from thirteen years to five years ago, 14 have been operated on by the radical operation, 1 has been lost sight of, 1 was carcinoma of the body, 6 died and 6 are alive and well to-day; 1 twelve, 1 eleven, 1 ten, 2 nine, 1 seven years.

After this operative experience and the pathologic study of the specimens removed, the principles which I announced in 1895 remain unchanged. But I must repeat that the value of this operation lies rather in the possibility of more numerous, complete and lasting cures of favorable cases than in the possibility of operating on advanced cases which are not amenable to treatment by the older methods.

Carrying out this operation I found, as was to be expected, that certain cases are inoperable which formerly would have been considered operable. On the other hand, certain classes of cases were demonstrated as amenable to operation which formerly were regarded as hopeless, as will appear in the further discussion.

Coming to the more technical points of this discussion, it may be said that there is no case which is inoperable for the palliative methods. Even those patients who cannot safely take an anesthetic can be submitted to this palliative treatment, as it can be carried out without an anesthetic or with a little morphin, in practically all cases.

The radical operation as I practice it, is a severe and dangerous operation in itself, even where the conditions are reasonably favorable as far as the extent of disease is concerned. Patients who are very anemic in consequence of prolonged and severe hemorrhages stand the anesthetic poorly and are poor risks even with scopolamin-morphin or spinal anesthesia. If preparatory treatment of short duration directed towards raising the hemoglobin percentage and the red blood count is not rapidly successful, the danger is considerable. Short stout patients of stocky frame are hard to operate on. Even tall patients, when very obese, offer great obstacles and the operation is liable to be extremely difficult and long, and therefore risky. Patients with nephritis, chronic bronchitis and emphysema and valvular lesions of the heart are in special danger. Preparatory treat-

ment should be tried in these cases for a short time. If it is not rapidly successful the patient should be informed of the additional risk she is running. I have repeatedly operated on patients with well-compensated heart-lesions without bad results.

The bacteriology of the carcinomatous surface is of great importance. Practically all carcinomas contain microorganisms of varying degrees of virulence. The danger of infecting the pelvic connective tissue and the peritoneum is always present in spite of various technical precautions which have been advised. It is safe to say that it is impossible to render an infected carcinomatous ulcer aseptic, whatever the preparatory treatment may be. The carcinomatous area may be opened into in the course of the operation, if the uterus tears, and carcinomas of the cervical canal are particularly treacherous in this respect. In order to lower the primary mortality it has been advised to give preparatory treatment to the septic carcinomatous areas for weeks, if necessary, before the main operation. But it is not safe to let a carcinoma go on for weeks, because in the course of these weeks it may become hopelessly inoperable, even if a little cleaner on the surface. In addition it must be stated that preliminary curetting and cauterizing in itself is not without danger. It is often followed by rise of temperature, sometimes even by exudates, which may render the radical operation impossible. Preparation of the carcinoma the day before the main operation or immediately preceding the main operation seems to be the best method. Patients who develop high temperature and septic conditions if prepared one day before the intended main operation, are best left without operation.

DIAGNOSIS OF EXTENT OF INVASION

The extent of the neoplasm is necessarily of prime importance with regard to the operability of the case. It is diagnosed before, during and after the operation, and often the result of the investigation at one of these periods is vastly at variance with that at another period.

Before the operation the methods used in the diagnosis of the operability of the carcinoma are inspection in the speculum, palpation, vaginal, rectal, abdominal and combined, and lastly cystoscopy.

The speculum is mentioned only to be condemned as practically useless. Cystoscopy should theoretically give safe indications, but does so only in a very limited way. If the cystoscope shows that the carcinoma has grown through into the bladder, it has been of value, because it shows the case to be inoperable. But the other conditions found in the bladder, edema, bullous edema and distortion of the bladder, are not reliable. They may be due as much to the infected condition of the carcinoma as to carcinomatous invasion of the bladder itself. Unless the cystoscope shows actual involvement of the bladder mucosa, the case need not be considered inoperable until further investigation.

Vaginal palpation of the carcinoma, especially after as much of the neoplasm as possible has been removed with the curette, shows the involvement of the uterus and surrounding tissues with a reasonable amount of accuracy. Extensive involvement of the vagina especially if extending into the depth, extensive destruction of the cervix, especially if involving the broad ligaments, characterize the case as inoperable. Palpation through the rectum may reveal thickening and rigidity of the ligaments which might make the operation useless. Palpation of the glands in the pelvis through the rectum has been recommended, but I myself have never been able to palpate glands even if I found them enlarged afterward in the course of the operation.

Abdominal palpation might reveal carcinoma of abdominal organs outside the pelvis, thereby forbidding the operation. Palpation of the uterus through the abdomen may reveal a large tumor, but that in itself is not a serious obstacle.

Combined palpation, vaginal and abdominal, or vaginal, rectal and abdominal, will demonstrate the amount of mobility of the uterus and the condition of the ligaments. Free mobility of the uterus, which was of prime importance in the days of the old vaginal hysterectomy, is of much less importance for the method I advise, unless the immobility is due to carcinomatous involvement. If the immobility is due to carcinomatous fixation, the operation is not theoretically impossible, but it is practically useless as far as remote results are concerned. It is one of the important advances achieved by the performance of the radical abdominal operation that we know now that a uterus which appears immovable on combined palpation, may be perfectly operable, with good remote result, because in a number of cases the fixation is not due to carcinoma but to chronic inflammatory thickening of the ligaments.

CONDITIONS REVEALED AT OPERATION

In the course of the operation the operability may appear entirely different from that diagnosed before operation. Small metastatic tumors in the liver or carcinomatous adhesions to the intestines or omentum may be found immediately on opening the abdominal cavity, and classify the case at once as hopeless, when no amount of abdominal or combined palpation preceding the operation had revealed these conditions.

Therefore it is an important rule that every radical abdominal operation for carcinoma of the cervix should be begun as an exploratory operation. A rapid review of the liver, the abdominal glands along the aorta and its branches and of the bladder, must precede the actual operating in the pelvis. Conditions may be revealed here which forbid all further interference. Metastatic tumors of the liver make the case absolutely hopeless, as do also large carcinoma masses in the broad ligament, especially if they have perforated the ligaments and have made metastatic nodules on the peritoneum in the cul-de-sac or anywhere else. The condition of the glands is very difficult to interpret correctly. Large glands may or may not be cancerous and small glands are not necessarily free from cancer. Firm attachment of the glands to the veins must be considered very suspicious. This finding may occur in cases in which the carcinoma seemed confined to a small area in the uterus. These are the cases which appear perfectly operable on careful examination before the operation and prove incurable in the course of the operation. Toughness of the broad ligaments, if not combined with actual tumor formation, does not necessarily indicate carcinomatous involvement.

In the course of the operation conditions may be encountered which show the operation to be useless after it is more or less completed. For instance, it may be found, after removing evidently cancerous glands along the common and internal and external iliacs, that cancerous chains of glands extend under Poupart's ligament down into both thighs—a condition which I have seen. Or, in detaching the vagina, about the last step of the operation in the pelvis, it may be found that the pelvic connective tissue is invaded to an unexpected extent, a condition which I have seen. Then we have performed

an apparently well-indicated operation and do not discover until its very end that it was all useless.

MICROSCOPIC STUDY OF THE TUMOR AND TISSUES

After the operation follows the extremely important microscopic investigation of the specimen. No amount of operative technic can further our knowledge so much as a carefully conducted pathologic investigation of the specimen with constant comparison of the findings before and during the operation, with those of the post-operative investigation. This post-operative examination uncovers all shortcomings of our diagnosis and of our operative technic, and must be the basis of future improvements. There is no greater satisfaction than to find that the results agree in all three stages, and no greater incentive for further work than to find out where and why they do not agree. Literally thousands of sections of glands and broad ligaments and cervix are required to make sure that we have operated outside the carcinoma, but this work, laborious and heart-breaking as it may be, is a most essential part of our task, on which the rational surgical treatment of carcinoma of the cervix must be based.

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USE OF THE CAUTERY IN TREATMENT OF CARCINOMA OF THE CERVIX*

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Hysterectomy for carcinoma of the cervix has been a more or less unsatisfactory operation, the large percentage of early recurrences being an especially distressing feature of its results. The treatment of operable cases has now progressed to a well-nigh perfect degree of technic in competent hands. The radical abdominal operation, like the radical breast operation, when properly done, leaves nothing more that can be done in an operative way.

The one remaining thing to accomplish is to educate both the laity and physician to such a point that the patient will present herself early to her physician, and that the physician will make an early diagnosis, which being made, the patient will be forthwith sent for operation, rather than be kept under the physician's remunerative local treatments till the golden opportunity has passed. When such a condition has been obtained the statistics of radical pelvic extirpation will show different results than those of the past.

The experience of all operators is that a very large percentage of cervical carcinoma cases are much more advanced than the examination at first seems to show.

Bovée has said that fully 80 per cent. of all cases of carcinoma of the cervix are inoperable. The squamous-celled carcinoma of the portio vaginalis, as shown by Montgomery, is less malignant than the adenocarcinoma originating in the glands of the cervical mucous membrane. The latter much earlier involve the lymphatics than do the former.

Emil Ries, Wertheim, Clark, Sampson, Bovée and others have shown years ago that lymphatic involvement high up may exist when no suspicion or evidence of it existed on examination. Unfortunately, we shall always have a much larger percentage of inoperable cases with us than we would wish for. It seems to be a necessary step to decide definitely in our minds between what constitutes an operable and an inoperable case. The statistics of the past would have been better had there been a well-defined line of demarcation between these two classes.

An operable case can be defined as one in which the disease is confined to uterine tissue alone, and an inoperable case, one in which the growth has involved surrounding tissues. It is often impossible to determine these questions until the patient is anesthetized. Examination through the rectum, high up, is necessary, as well as the vaginal examination. The rectal examination often tells more than the vaginal. If pain has been, to any extent, a symptom, it is probable that the extension is outside, for carcinoma of uterine tissue produces no pain nor tenderness.

Operations which do not remove all the diseased tissues only hasten the process of growth, as witnessed by the reported rapid recurrences in so large a percentage of cases. Many of these patients would live longer if they were never operated on. Another fruitful source of recurrence has probably been infection of raw surfaces at time of operation, as evidenced in the prompt recurrence in the scar in the vaginal vault. This scar would not be the first point of return were it not for this fact.

The late Dr. John Byrne of New York nearly twenty years ago demonstrated what he could do with the actual cautery in inoperable cases of carcinoma of the cervix. He reported a series of successful operations by the method of which he was the author, which to this day excels in results any that have been done by any other operator. He wrote of his method and reported his results from time to time till his death, but for some unknown reason his methods were never persistently followed by any of the army of operators who knew what he was doing. Dr. Byrne, in a discussion of one of Dr. Boldt's papers on carcinoma, made this statement relative to the apathy of the profession as to the cautery operation:

> **That the great bulk of our profession have practically ignored one of the least dangerous, but most successful of all the means yet devised for the relief and often permanent cure of uterine cancer is something *not* to be proud of in this age of progress.**

His report made in 1896 as president of the American Gynecological Society embraced two series of cases, one consisting of 63 patients operated on for cancer of the portio vaginalis, of whom 23 patients had strayed away, leaving only 40 to account for. Of these, "exemptions from relapse were obtained ranging from two to twenty-two years, averaging nine years for each."

In the second series of 81 cases, out of which 31 patients had strayed, he reported exemption from relapse as follows: 10 for over two years; 11 for over three years; 6 over four years; 8 over five years; 6 over seven; 2 over eleven; 1 over thirteen and 1 over seventeen years. He further reported one of his stray patients, a very unpromising one when operated on in 1875, discovered alive and well twenty-one years afterward.

Undoubtedly a goodly proportion of the patients subjected to hysterectomy in the past would have been as well, and probably better off without operation, and would have lived longer. It is manifestly our duty not to operate when the results of such operations are known not to relieve, but probably hasten the death of the patient. But we cannot desert these poor sufferers. And in the cautery operation of Dr. Byrne we have the means

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of doing for them that which cannot be done in any other way. All the other makeshifts, the chemical caustics, such as zinc chlorid, pyoktanin, bromin, etc., are useless as compared to the galvanocautery, because they are difficult to control and of doubtful efficacy.

The galvanocautery can be controlled, and all done while the patient is under the anesthetic. When the cautery is withdrawn we are sure that no further destruction of tissues is going on. With the chemical caustics such is not the case. Besides, the cautery is more penetrating and certain in its results.

The acetone treatment, to which Dr. Gellhorn of St. Louis first called attention by his publication in THE JOURNAL of this Association in 1907, and later in the *American Journal of Obstetrics and Gynecology,* I have never tried. I have been trying out the cautery in this class of cases. Acetone is not to be classed with bromin, zinc chlorid, etc., because it is not a caustic and is followed by no sloughing. It is more of a hardening fluid; but from all reports I doubt that its depth of penetration is equal to that of the cautery. One of the strongest points in favor of the cautery is that scar tissue follows its use, and as scar tissue always is contracting, it to a greater or less extent interferes with the nutrition of the cancer growth and thereby prevents recurrence or inhibits rapid recurrence and growth.

When the carcinomatous growth has progressed to the stage of breaking down with hemorrhage and infection, we have not only the results of the hemorrhage on the general health of the patient, but we also have various grades of toxemia from the infective processes accompanying the sloughing and bleeding cancer tissue. Both the hemorrhages and the infection may be stopped by the thorough use of the cautery, thereby controlling two of the prominent inroads on the health and life of the patient. And if in addition thereto we take into consideration the cessation of foul, fetid discharges, which are disgusting to the patient and all about her, we have added no inconsiderable blessing to her existence. By this means if we do not permanently cure the patient, we are adding to her length of days as well as making her life more happy and tolerable.

Manifestly cauterization of a fungating cervix will not cure the patient if the infection has passed up into the pelvic lymphatics beyond the reach of the cautery. But in a small portion of cases, even far advanced, infection of the lymphatics higher up has not occurred, or else Dr. Byrne could not have had patients alive five to twenty years after cauterization with no evidence of any carcinoma present. Undoubtedly many of his successes were in cases which were seen comparatively early in the disease, and as he treated all patients with cancer of the cervix with the cautery, instead of hysterectomy, his results would naturally give a larger percentage of cures than are obtained by treating the inoperable cases only, by this method. Cases which we consider safely operable are seldom if ever treated in this way, but the radical operation is done probably with as great or better chances of non-recurrence, with a proper technic, to prevent reinfection at time of operation.

The sharp curette is the adjuvant of the cautery in the inoperable class. By it all the soft bleeding mass may be removed, thus excavating down to the basement carcinoma. All of the cylindrical water-cooled speculums which have been devised, to my way of thinking, are hindrances rather than helps to the efficient performance of this operation, because by their thickness they so limit the field of operation and vision that I, at least, cannot do it thoroughly. Burning of the vagina or bladder may be prevented by placing over the blades of speculums and retractors moist gauze jackets made to fit them. By this means a wide field of vision and action is obtained. After curetting away all the soft tissues, there is more or less oozing and sometimes bleeding.

Dr. Boldt, several years ago, suggested, and I think practiced, packing the crater thus made and waiting a day or two before using the cautery. If there is too free bleeding which cannot be readily controlled, this is a good plan to follow, for the effective use of the cautery demands a comparatively dry surface; otherwise the penetration of heat from the cautery tip will not be sufficient. Dr. Byrne used a saturated solution of zinc acetate with 25 per cent. of strong acetic acid to stop oozing and to dry the curetted surfaces before using the cautery. The acetone, from Dr. Gellhorn's report, will also prove to be an ideal application to stop all oozing.

I think that many operators have failed to get results and have given up the attempt to do this operation because they have not used a good and efficient cautery. No Paquelin thermocautery apparatus that I have ever seen can do the work properly. Only the right kind of electrothermocautery will do this work efficiently. Ordinary cautery batteries are of doubtful utility. The ordinary street current used for incandescent electric lighting, controlled by a rheostat, gives the necessary power to heat a platinum dome to any degree desired from dull red to white heat. Before using the dome the operator should determine where he desires the most penetration, where the tissues are thickest and what he wishes to avoid, be it bladder or peritoneal cavity. The peritoneum has been opened by the cautery with no ill results. So long as intestines are not burned, no peritoneal opening could be made under more aseptic precaution. The bladder, rectum and ureters only are to be avoided. The uterine arteries, if not exposed, may be destroyed by the deep cooking process with impunity, for they will, long before the slough comes away, have been effectually sealed. Dr. Byrne suggested that no packing be used in the crater subsequent to the cautery, as in its removal the slough might be forcibly torn away and hemorrhage follow. Natural separation I have never known to produce any bleeding.

The best results may be secured by not placing the heated dome against the tissues, but by holding it near them, thus allowing the heat to make the greatest penetration, roasting them as it were. If the bladder is well held up by a wet gauze-protected retractor it will never be damaged; neither will the penetration of the heat reach the ureters unless it is much overdone.

It is only within the past five or six years that I have been doing this work in a manner which has appealed to me as effectual in this class of cases. Some of the patients have lived two or three years very comfortably; two have been, I believe, absolutely cured, now living, one four and the other five years. One had passed the menopause, and she has a shriveled cicatrix where her uterus was, and is well. The other was not yet past the menopause and had hematometra after the cautery, by occlusion of the uterine canal, for which I did a vaginal hysterectomy. This uterus was investigated thoroughly after removal and not one slide showed any vestige of cancer tissue in it. She is well five years after the last operation. In general, all of these patients have been

made more comfortable than were those whom I formerly operated on and have lived longer.

I have done several hysterectomies for those whom I cauterized three or four times previously to the operation. The effect of the cicatricial deposits after the use of the cautery has been to inhibit the growth of the cancer to an extent which warranted me in making the attempt to do a radical abdominal operation later.

I wish, therefore, to suggest the idea of using the cautery as a means of preparing a limited number of these patients for later radical operation. I have further to suggest the use of the cautery freely before doing a radical operation, with the idea in mind that no inconsiderable part of the subsequent recurrences in the scar, as before outlined, are due to fresh infection of the raw surfaces at time of operation.

I believe that free and deep cautery of the cervix before radical operation does more to prevent such recurrences, as no other means has been devised that will not at times fail. This I believe to be a very much more important step in the technic of the radical operation than would at first thought appear.

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THE RESULTS OBTAINED BY THE RADICAL ABDOMINAL OPERATION FOR CARCINOMA OF THE UTERUS *

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The evolution of the modern radical operation for the cure of cancer of the uterus has kept pace not only with the general evolution and progress in surgery but with the modern conceptions of the pathology of cancer as well.

The abdominal radical extirpation of cancer of the uterus may be said to be still in its infancy. Sufficient time has not elapsed in which to draw definite conclusions, but this fact remains, that up to the present time our experiences with operations for cancer in all parts of the body prove that an operation which gives the least number of recurrences must conform to the following general principles, namely, "the complete removal of the diseased organ, and as much of the surrounding tissues as is possible, together with the removal of the regional lymphatic glands which drain the part affected."

There exists at the present time no other disease in gynecology around which so much interest centers, or one regarding whose surgical treatment so little unanimity of opinion exists as is the case in cancer of the uterus.

This review of the literature has been undertaken with the idea of determining, as far as may be possible at the present time, what results, immediate and remote, we may hope to obtain from the radical abdominal operation, inasmuch as this method conforms, more nearly than any other, to our present conception of what an operation for this disease should be.

In making a statistical study of the results obtained with the radical abdominal operation for cancer of the uterus, we are confronted by many difficulties. The scarcity of complete detailed reports of such operations makes an ideal statistical study almost impossible. There exists no systematic or common method of reporting the cases on record, that is, whether the operation was done early or late, or whether the cancer was of the cervix, vaginal portion, or body of the uterus. There are no large series of cases on record which have been observed for five years or more, to corroborate the final results from many operators. Another difficulty which we meet is that not all operations reported as "abdominal operations" or "abdominal hysterectomy for uterine cancer," are really operations by the radical abdominal method. So that in making a statistical study, all reports of cases which do not possess the essential requirements of the modern radical operation must be carefully excluded.

From the standpoint of malignancy, it is now generally recognized that of all the uterine cancers, the least malignant is the adenocarcinoma affecting the body, next the squamous-celled carcinoma of the vaginal portion of the cervix, and that the most malignant is the adenocarcinoma of the cervical canal. It follows that the surgical treatment of each variety will give different results and therefore, it is not exactly proper to consider them all together. In the literature, however, there are only a few instances in which the different types are separated by the operators in reporting their cases of radical abdominal operation. I have found that a separate consideration of the results obtained from the radical abdominal operation in each type of cancer of the uterus is impossible, and therefore have been obliged to consider them altogether.

I have collected from the literature and from personal communication with operators in this country, reports of 2,765 instances of the radical abdominal operation which conform to Winter's formula as to what constitutes this operation. Of these 2,467 have been gathered from the continental literature, and 298 from American surgeons. The 2,467 operations which were reported are as follows:

	Cases.
Radical Wertheim operation	1,052
Radical abdominal method	689
Amman method	5
Radical abdominal operation with cleaning out of pelvis	261
Bumm-Wertheim operation	77
Freund-Wertheim operation	183
Mackenrodt-Amman operation	13
Freund	15
Mackenrodt operation	144
Complete extirpation with parametrium and glands	28
Total	2,467

The reports of the 298 operations gathered from American surgeons were either reported as Wertheim operations, or in a personal communication to me, as "abdominal hysterectomies with a free dissection of the ureters and wide excision of the parametrium, the removal of a portion of the vagina and any enlarged glands present."

The status of the radical abdominal operation in America was illustrated by the replies received from 330 letters of inquiry sent to the leading surgeons and gynecologists of this country regarding the radical abdominal operation for cancer of the uterus. I received 140 replies, only twenty-two of which gave the experience of operators who had done the operation. From the scarcity of the number of recorded cases in the American medical journals, and from the comparatively few reports of cases obtained from personal communication, it is evident that the modern radical abdominal operation for uterine cancer has not received the recognition in this country which it has abroad. I regret that, at this

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

* For reasons of space, the article is here abbreviated by the omission of part of the historical portion and all of the bibliography. The complete article appears in the Transactions of the Section and in the author's reprints.

time, I have been unable to obtain late reports from Kelly, Clark, Cullen, and Ries, all of whom have had much experience with this method.

In this statistical study I have given Wertheim's results separately as well as combined with the general results of other operators. This has been done for the reason that one of the objections which has been raised to the more general employment of this method has been that other operators could not obtain results equal to those of Wertheim.

The following is a tabulated list of the cases reviewed.

TABLE 1.—STATISTICS OF THE OPERABILITY AND MORTALITY

CONTINENTAL OPERATORS

Operator.	No. Operated On.	Operability, Per Cent.	Primary Mortality. No.	Primary Mortality. Per Cent.
Amman, J. A.[7]	5	..	1	20
DeArcangelis[8]	2	..	1	..
Berutti[9 10]	...	..	..	..
Belloeuf, F., and Sorell[11]	1	..	0	..
Bergesio and Berutti[9 10]	70	..	27	..
Berkeley, C., and Bonney, V.[12 13 14]	18	67	3	16.6
Billhaut, M.[15]	4	..	3	..
Bumm[16 17]	75	90	15	20
Cheatle, Lenthal[18]	1	..	..	..
Dobbert, T.[19]	25	..	3	..
Depage, A., and Mayer, L.[20]	1	..	..	..
Döderlein[21 22 23 24]	209	48.3-68.6	30	14.3
Ernst[25]	3	..	..	..
Ferrier[16]	15	..	3	..
Freund, H. W.[26]	15	..	3	20
von Franque, Otto[27 28 29 30]	166	..	33	20
Faure, J. L.[31 32 33]	12	..	0	..
Franz, K.[34 35 36 37 38]	140	81.35	27	19.28
Fuchs[39]	2	..	0	..
Fueth[40]	1	..	1	..
Jacobs[41 42 43 44 45]	95	..	6	6.3
Blake[45]	15	..	0	..
Jeannel[46]	33	30	11	35
Jessett and Bowerman[47]	1	..	0	..
Jessnitzer and Eugen[48]	14	..	3	..
Jonnesco, T.[49 50]	28	..	9	..
Kleinhans, F.[16 51]	32	..	3	9.4
Korner, V.[52]	7	..	3	..
Kroenig[16 53 54]	47	61.7-87	2	..
Klein, G.[55 56 57 58]	52	40	7	12.8
Kuestner[16 59 60]	20	68.7	4	19.4
Gattrono, S.[61]	18	..	2	..
Lampe, R.[62]	7	..	3	..
Latzko, W.[63]	10	..	0	..
Lockyer, C.[64]	12	70.5	3	..
Legeau[9]	10	..	4	..
Mackenrodt[16 17 65 66 67 68]	144	92	28	19-21
Morisani[9]	14	..	1	..
Muller, P.[53]	7	33.3-89.5	3	42.5
Opitz[69 70]	1	..	0	..
Oberlander[71]	1	..	0	..
Pfannenstiel[16]	10	..	2	20
Prelli, C.[72]	24	..	10	..
Prochownick[73]	16	..	6	..
Polosson, A., and Violet[14 74]	32	12-14-56	6	(18.7)
Poten[76]	2	..	0	..
Poroschin[77]	4	..	1	..
Reinecke, P.[78]	66	40.76	14	21.2
Reynier[9]	18	..	5	..
Ricard[16]	9	..	1	..
Richevin, R.[79]	18	..	6	..
Richelot, G. L.[80]	21	..	8	..
Rouffart[81]	1	..	1	..
Von Rosthorn and Shindler[82 83 84 1 16 85]	117	36.1	16	13.67
Spinelli[86]	5	..	1	..
Sellheim, H.*	13	..	3	..
Sitzenfrey, A.[87]	1	..	0	..
Thring, E.[88]	6	..	0	..
Velt[89]	33	..	11	..
Viannay[52]	7	..	3	40
Wertheim[75 90 103]	487	60†	119	24.50
Walthard[108]	8	..	0	..
Weiss, Th.[104]	1	..	0	..
Zacharias, P.[105]	97	..	21	..
Zweifel[16 106 107]	129	..	17	10.8

† In last 200 cases.

AMERICAN OPERATORS

Operator.	No. Operated On.	Operability, Per Cent.	Primary Mortality. No.	Primary Mortality. Per Cent
Peterson, R.*	36	15 or 20	7	19
Reder, F.*	32	40	8	26.2
Jonas, J. F.*	5	50	1	20
Cannady, J. E.*	10	50	2	20
Boldt, H. J.*	5	..	..	0
Rixford, E.*	12	..	3	25
Smith, R. R.*	3	20	1	33⅓
Janvrin, J. E.*	12	10	4	33⅓
Polak, J. O.*	10	..	2	10 or 12
McLaren, A.*	7	..	11	5
Tate, M. A.*	4	15	0	..
Cumston, C. G.*	12	5	0	..
Frank, L.*	25	†	3	3 or 4
Stone, I. S.*	20	25.20	1	5
Ill, E. J.*	2	..	0	..
Poucher, J. W.*	39‡	..	3	..
Gellhorn, George*	3	..	2	..
Crossen, H. S.[108]	1	..	0	..
Rosenthal, M. I.[109]	3	..	0	..
Hutchins[110]	8	50	1	12.5
Jacobson, J. H.*	7	..	2	..
Barrett, C. W.*	6	..	1	..
Cushing, E. W.*	12	25	..	..
Humiston, W. H.*	2	..	0	..
Sampson, J. A.*	14§	50	4	..

† All of body to cervix.
‡ At present all cases.
§ Since 1905.

OPERABILITY

In the 2,765 operations reported by 130 operators, I found the percentage of operability, as recorded by 28, to vary from 5 per cent. to 90 per cent. The operability percentage is decidedly higher among European surgeons.

TABLE 2.—PERCENTAGE OF OPERABILITY

CONTINENTAL OPERATORS

	Per Cent.
Berkeley and Bonney[13]	67
Bumm[16]	90
Döderlein[16 23 24]	68.6
Franz[34 35 36 37 38]	81.35
Jeannel[46]	30
Kroenig[46 53 54]	87
Klein[55 56 57 58]	40
Kuestner[16 59 60]	68.7
Lockyer[64]	70.59
Mackenrodt[68 17 65 66 67 68]	92
Muller[54]	89.5
Polosson[14 74 75]	56
Reinicke[78]	40.76
Rosthorn[82 83 84 1 111]	36.1
Wertheim[66 87 27 88 89 83 75 90 to 102]	60.0
An average operability of	65.17

The average per cent. of operability excluding Wertheim's figures is 65.54 per cent.

AMERICAN OPERATORS

	Per Cent.		Per Cent.
Peterson	20	Tate	15
Rider	40	Cumston	5
Jonas	50	Frank	25
Cannady	50	Poucher	100
Smith	20		
Janvrin	10		
An average operability of	35		

In the twenty-eight instances in which I found the operability recorded, seven had a percentage of less than 25 per cent.; 10 gave it as being between 25 to 50 per cent.; five between 50 to 75 per cent., while six gave a percentage of 75 and over. It must be emphasized that with the radical abdominal operation, a higher percentage of all cases of cancer of the uterus are operable than by any other method, and this to a large extent, explains its high primary mortality. If the radical abdominal operation was performed only in the early cases, or in cases in which a vaginal hysterectomy could be made, the operative mortality would not be considered high.

There exists a definite relation between the percentage of operability and the mortality-rate of the operation. The primary mortality is dependent, for the most part, on the degree of operability of a given case, as well as on the percentage of operability of all cases which the individual operator possesses. It is obvious that the earlier the patients are seen, the higher will be the percentage of operability and the lower the primary mortality. The operability percentage as well as the primary mortality is likewise influenced by the experience which the operator has had with the method; with a larger experience comes a greater familiarity with the technic of the

operation and therefore an increase in the operability of all cases seen, with fewer deaths from the operation. These facts are well illustrated in Table 3, in which I have endeavored to ascertain the relation of operability with primary mortality, and have therefore compared operators having an operability of less than 50 per cent. with those of 50 per cent. or more.

TABLE 3.—OPERABILITY COMPARED WITH PRIMARY MORTALITY

OPERATORS HAVING AN OPERABILITY OF LESS THAN 50 PER CENT.

Operator.	Per Cent.	Per Cent.
Döderlein	48-68	Primary mortality 14.3
Jeannel	30	Primary mortality 35
Klein	40	Primary mortality 12.8
Reinecke	40.76	Primary mortality 21.21
Von Rosthorn	36.1	Primary mortality 13.67

An average operability of 38.95 per cent., with a primary mortality of 19.39 per cent.

OPERATORS HAVING AN OPERABILITY OF MORE THAN 50 PER CENT.

Operator.	Per Cent.	Per Cent.
Bumm	90	Primary mortality 20
Franz	81.35	Primary mortality 19.28
Mackenrodt	92	Primary mortality 19-21
Polosson	56	Primary mortality 18.7
Wertheim	60	Primary mortality 24.5

An average operability of 75.87 per cent., with an average primary mortality of 20.69 per cent.

Simultaneously with the adoption of the radical abdominal operation; many authors record an increase in the operability of all patients presenting themselves for examination; thus Baisch[22] states that at Tübingen the operability of all cases of cancer of the uterus rose from 48.3 per cent. to 68.6 per cent. with the introduction of the radical abdominal operation, while Muller, in Berne, raised his operability from 33 per cent. to 89 per cent.; von Rosthorn to 36.1 per cent.; Döderlein[16] from 48.3 per cent. to 68.6 per cent.; Franz[34] from 29.2 per cent. to 52 per cent.; Kuestner[17] from 34.5 per cent. to 68.7 per cent.; Zweifel[106] to 68.4 per cent.; Kroenig[16, 54, 58] 61.7 per cent. to 87 per cent.; Polosson[14, 74, 75] 12.14 per cent. to 56 per cent.; Wertheim[90, 102] to 60 per cent. in his last 200 cases.

PRIMARY MORTALITY

In the 2,765 operations tabulated, there were 538 deaths, a gross primary mortality of 19.45 per cent. This percentage agrees in the main with what has heretofore been generally considered as the primary mortality, namely about 20 per cent.

The Continental surgeons in 2,467 operations had 492 deaths, a primary mortality of 19.94 per cent., which, exclusive of Wertheim's cases, was 13.79 per cent. The American surgeons in 298 operations, had forty-six deaths or a primary mortality of 15.77 per cent.

The gross mortality of all the operations recorded is necessarily high, yet not so high as one might expect from so formidable an operation in the hands of so many different operators. The following list further shows that in individual instances, the primary mortality is much below the average, as for example:

Döderlein in 209 operations had 30 deaths or 14.3 per cent.
Jacobs in 95 operations had 6 deaths or 6.37 per cent.
Kline in 52 operations had 7 deaths or 12.8 per cent.
Zweifel in 192 operations had 17 deaths or 10.8 per cent.

Although it is of the greatest importance, I have, for lack of detailed data, been unable to tabulate and contrast the results of the cases which have been operated early with those which have been operated late. The percentage of operability has a relative bearing on these questions and has been considered above.

I have been able to find a number of references illustrating the fact that with an increased experience, individual operators have had a corresponding decrease in the primary mortality rate.

Bouvier[113] 1904, states that Mackenrodt in his last twenty-one cases had two deaths or 9.5 per cent.

Baisch[22] 1905, reports that the primary mortality in Döderlein's cases was 15 per cent., and that in his last forty-five cases it decreased to 6.6 per cent. Bergesio[10] states that from 1898 to 1906, the Wertheim operation was done by himself and Berutti seventy-nine times; if we divide the time of these operations into three-year periods, we have the following figures:

1898 to 1900, 20 operations with 9 deaths, primary mortality 45 %
1901 to 1903, 32 operations with 11 deaths, primary mortality 34.5%
1904 to 1906, 27 operations with 7 deaths, primary mortality 26 %

Von Franque,[28] 1909, reports 166 operations with a 20 per cent. primary mortality.

In 1905 he made 38 operations with primary mortality of 13%
In 1906 he made 42 operations with primary mortality of 26%
In 1907 he made 44 operations with primary mortality of 16%

He had series of cases, as many as eighteen consecutively, without a death. Von Franque, however, does not think it will be possible to reduce the mortality as low as 10 per cent.

J. L. Faure[31] writing in 1906, reports the following figures:

First series (15 operations) 9 deaths (primary mortality of 60%)
Second series (18 operations) 6 deaths (primary mortality of 33%)
Third series (7 operations) 1 death (primary mortality of 14%)

Scheib[27] gives the figures presented in Table 4 by years, containing the number of patients with cancer of the cervix who died primarily from operation as well as the total who came to operation, including the number of attempts at operation in which the radical operation could not be completed.

TABLE 4.—OPERATIONS AND MORTALITY IN SCHEIB'S CASES

Year.	No. Cases.	Inclusive Attempts.	Deaths No.	Deaths Per Cent.	Deaths Inclusive Attempts at Radical Operation.
1903	15	17	4	26.6	5 or 29.8 per cent.
1904	22	25	4	18.1	5 or 20 per cent.
1905	35	38	5	14.2	5 or 13.1 per cent.
1906	39	42	10	25.6	11 or 26.1 per cent.
1907	38	44	7	14.4	7 or 15.9 per cent.
	149	166	30	20.1	33 or 19.8 per cent.

E. Wertheim[103] (1902) gives the following figures:

Primary results of his first 30 cases, 12 deaths
Primary results of his second 30 cases, 5 deaths
Primary results of his third 30 cases, 3 deaths
Primary results of his fourth 30 cases, 4 deaths

His total mortality is 20 per cent. and, if we exclude the first thirty cases on account of imperfection of technic, his later ones give a primary mortality of only 13 per cent. Wertheim[27] stated at the 1909 International Congress, at Budapest, that in his last 200 cases, the primary mortality was only 10 per cent.

R. Peterson (1910) reports a primary mortality in his first series, of 14 cases, 42.8 per cent.; in his second series, of 22 cases, of 4.5 per cent.

Schindler[85] 1904, reports that, at von Rosthorn's clinic, in twenty-five operations performed from Jan. 1, 1903, to April 1, 1904, there were only two deaths or a mortality of 8 per cent.

CAUSES OF DEATH

The causes of death from the radical abdominal operation for cancer of the uterus are given as shock, peritonitis, infection, sepsis and injury of the ureters.

I have been able to find in the literature only eighty detailed cases of death which were directly traceable to

the operation. The relative frequency of each cause is illustrated in the following list of causes:

Infection and sepsis	31
Peritonitis	19
Total	50
Shock	18
Injury of the uterers	2
Pneumonia	2
Nephritis	2
Anemia	2
Paralysis of the heart	1
Fatty degeneration of the heart	1
Pulmonary embolism	1
Necrosis of the ureter	1
Total	80

This list shows the relative high frequency of deaths due to infection, sepsis and peritonitis, fifty out of the eighty cases being due to these causes. Shock ranks next in relative importance as a cause of death, there being eighteen cases.

The most potent argument which has almost universally been used against the employment of the radical abdominal operation in the surgical treatment of carcinoma uteri, has been the high primary mortality which accompanies the operation. That the operation is correct in theory, and is the only one which conforms to our modern conception of the pathology of the disease, seems to be universally agreed; but its high primary mortality has not only deterred many operators from performing it, but has led to its abandonment by some who had already adopted it.

Those who make the criticism that the primary mortality of the operation is too high must not forget that the history of all major abdominal operations, in their period of development and perfection, have been accompanied by a higher mortality, and that such death-rates should not be taken as final.

SUMMARY OF THE REVIEW OF THE PRIMARY MORTALITY

1. In the 2,765 operations tabulated there was a primary mortality of 19.45 per cent.

2. The average percentage of primary mortality among Continental surgeons was 19.94 per cent. and among the American operators 15.77 per cent.

3. In individual instances the deaths from this operation have been reduced considerably under the general average, Jacobs 6.37 per cent., Zweifel 10.8 per cent., Kline 12.8 per cent., Wertheim in last 200 cases 10 per cent. and Döderlein 14.3 per cent.

4. The primary mortality is much lower when the operation is made before the disease has advanced too far. According to Berkeley in early cases the primary mortality is only 6.8 per cent., as compared to 26.7 per cent. in late cases.

5. The relatively high primary mortality of this operation is largely due to the greater number of cases operable by this method, the result being that cases are operated in a stage too far advanced for the employment of any other method of operation.

6. Death from this operation seems to be due in most instances to infection and sepsis and not as a rule to shock as is generally supposed to be the case.

The infection is, in all probability, the result of the presence of pyogenic bacteria in the carcinomatous mass and large area of raw surface exposed during the operation.

Shock may be due to any one or more of the following causes:

1. Inaccessibility of the deep pelvic structures, causing rough manipulations.

2. Manipulation and exposure of the abdominal viscera, particularly the small intestines.

3. Hemorrhage.

4. Prolonged operation with subsequent prolongation of the anesthesia.

FINAL RESULTS

It is too early at the present time to obtain a large amount of corroborative information regarding the end results of the radical abdominal operation. This is due mainly to two reasons: (1) the operation is still in its period of development, and (2) in only a few instances have operators been performing the operation for a sufficient length of time to have series of cases which have been observed for five years after the operation.

The following reports as they exist in the literature, together with the personal reports which I have been able to obtain from some of the American operators, represent the end results with the radical abdominal method as near as they can now be determined:

Bergesio and Berrutti[10] reported 1906, their final results in 20 operations performed from 1898 to 1900; 3 patients were alive two years after operation; 1, three years afterward, and 2, four years afterward; 11 were unaccounted for and 4 patients had relapsed and died in periods ranging from six months to twenty-two months after operation; 33 per cent. were alive from one year and ten months to four years.

Bumm,[16] reporting in 1907, was able to trace fifty-six women out of seventy-five in whom he had made the radical abdominal operation. Thirty per cent. were alive more than one year after operation.

Dobbert,[19] in 1907, out of twenty-five radical abdominal operations, gives the end results in eleven. Seven patients are free from recurrence one to four years after operation (35.7 per cent.).

Döderlein,[16] in 1907, reported forty-seven radical abdominal operations which he performed in 1902. Of the patients fifteen were free from recurrence three and one-half to four and one-half years after operation (31.9 per cent. Waldstein, 37.5 per cent. Winter); fifteen of these operations were made for cancer of the body of the uterus, which gave a primary mortality of 6.6 per cent., with an operability of 100 per cent. and a percentage of cure, after Winter, of 72.7 per cent. (or 53.3 per cent. after Waldstein). The thirty-two cases of cervical cancer gave an operability of 60.3 per cent., a primary mortality of 18.7 per cent., with permanent cure in 26.9 per cent. after Winter and 21.8 per cent. after Waldstein; an absolute cure of all cases observed three and one-half to four and one-half years after operation 16.2 per cent. were after Winter, 13.1 per cent. after Waldstein. He contrasts this with the end results of vaginal hysterectomy at Tübingen, which was only 9 per cent.

Mackenrodt,[68, 53, 27] in 1908, reports that among 144 patients operated on by his method, who were observed eighteen months to six and one-half years after operation, there were 61.5 per cent. of all or 74 per cent. of the surviving patients still well. The primary mortality in the last few years has been between 19 and 21 per cent. in an operability of 92 per cent.

Absolute cure	18 months	to 6½ years,	55.6 per cent.
Absolute cure	3½ years	to 6½ years,	52.6 per cent.
Absolute cure	4½ years	to 6½ years,	45.4 per cent.
Absolute cure	5½ years	to 1½ years,	58.3 per cent.

Polosson[75, 14, 74] reported in 1907 that after thirty-two radical abdominal operations for uterine cancer, 60 per cent. of the patients were alive after five years.

Reinecke,[78] in 1909, reports the final results in sixty-six cases. Up to the end of 1903 twenty-seven radical

abdominal operations were made for cervical cancer. Of the twenty surviving patients, seven are still free from recurrence, making a permanent cure of 35 per cent.

Recurrences were as follows:

First	year there were	23 recurrences
Second	year there were	5 recurrences
Third	year there were	3 recurrences
Fourth-Fifth	year there were	0 recurrences

Enlarged glands were removed in twenty-six of the sixty-six cases; in twelve instances they were found carcinomatous; all cases, excluding the primary deaths, recurred, with one exception, in which the glands had been found carcinomatous, or in which carcinoma-like cells were found.

Von Rosthorn[85] reported by Schindler in 1906 thirty-three abdominal radical operations. Twenty-seven patients have been observed for a period of five years and six for a period of four years. Seventeen patients have had recurrences and five have remained well. This makes 77.2 per cent. of recurrences with a permanent cure of 22.7 per cent.

Veit,[89] writing in 1910, states that out of thirty-three radical abdominal operations performed in 1904 for uterine cancer with a primary mortality of eleven cases, nine patients are now living, and, among these, one from whom probable carcinomatous glands were removed.

Wertheim,[27, 102] at the last International Medical Congress, 1909, at Budapest, reported the final results in 487 operations by this method; 200 patients were operated on more than five years ago. The primary mortality was 24.5 per cent. and the absolute cure in all cases 19.3 per cent. In the last series of cases the primary mortality has been lowered to 10 per cent. and the operability has risen to 60 per cent., so that Wertheim states that he expects an absolute cure, in all cases observed of 30 per cent. The accuracy of his statistics is demonstrated by the fact that none of his cases were lost from observation. At the Kiel congress, in 1905, Wertheim reported 60 to 70 per cent. of permanent cures (Winter) after five years, and at the Dresden congress, in 1907, he reported 120 radical abdominal operations the patients having been observed for five years after operation, among whom there was a permanent cure of 58.6 per cent. (Winter).

The summary of permanent results of continental operators is as follows:

Three	operators report	20% to 30%	of cures	from 1 to 5 years
Seven	operators report	30% to 40%	of cures	from 1 to 8 years
Three	operators report	40% to 50%	of cures	from 1 to 5 years
One	operator reports	50% to 60%	of cures	after 3 years
Five	operators report	60% to 74%	of cures	from 1 to 6½ years

Operators reporting permanent cures five years after operation are as follows:

Von Rosthorn	20	per cent.
Veit	30	per cent.
Wertheim	58.6	per cent.
Polosson	60	per cent.
Reinicke	35	per cent.

Average of the five operators, 40.72 per cent.; permanent cures five years after operation.

Average of the American operators, 8.39 per cent.; permanent cures five years after operation.

From the 298 radical abdominal operations by American operators there were forty-six deaths (15.77 per cent.) of the 252 survivors, seventy-eight are still free from recurrence and twenty-five or 8.39 per cent. are alive and well five years after operation.

TABLE 5.—COMPARISON OF OPERATIONS FOR UTERINE CANCER

Method.	Operability.	Primary Mortality.	Permanent Cures After Five Years.	Absolute Cures.
1. Radical abdominal operation by Continental surgeons, including Wertheim.*.	65.17 per cent.	19.94 per cent.	40.72 per cent. (five operators).	Average 21.14 per cent. (five operators with a period of observation from 2-6½ years).
2. Wertheim's results. †	60 per cent. in last 200 cases.	10 per cent. in last 200 cases.	58.6 per cent. (Dresden Congress, 1907).	19.3 per cent.; awaits 30 per cent. on account of increase in operability.
3. Radical abdominal operations by Continental surgeons, not including Wertheim.*	65.54 per cent. (Continental Surgeons).	13.79 per cent. (Continental Surgeons).	36.25 per cent.; average of 4 European Surgeons.	Average 21.40 per cent. (four operators 3 to 5 years after operation).
4. Extensive vaginal hysterectomy, Schauta.†	47.7 per cent.	10.7 per cent.	39.5 per cent.	13.4 per cent.
5. Vaginal hysterectomy.††	25 to 40 per cent.	8 to 10 per cent.	Lasting results in 33⅓ per cent., Gusserow, 1890-1900 (ca. cervix), 24.4 per cent. (ca. body), 100 per cent.	7 to 10 per cent.
6. Byrne's operation, 237 cases, 151 lost sight of.‡	100 per cent.	Nil.	Three years after operation (65 cases), 17.71 per cent.; five years after operation (46 cases), 12.53 per cent.	Three years after operation 17.71 per cent.; five years after operation (46 cases), 12.53 per cent.

* Compilation by the author.
† Internat. Med. Cong., Budapest, 1909.
†† Döderlein-Kroenig, 1907.
‡ Tr. Am. Gynec. Soc., 1889, xiv and xvii.

These twenty-five cases are reported by the following:

	Cure.	
Peterson	3	Permanent cure five years after operation.
F. Reder	2	Permanent cure five years after operation.
E. Rixford	2	Permanent cure five years after operation.
J. E. Janvrin	2	Permanent cure five years after operation.
J. O. Polak	1	Permanent cure five years after operation.
C. G. Cumston	3	Permanent cure five years after operation.
J. W. Poucher	6	Permanent cure five years after operation.
C. W. Barrett	2	Permanent cure five years after operation.
Emil Ries	4	Permanent cure five years after operation.

The following is a summary of absolute cures:

Mackenrodt,[66] 58.3 per cent., 5½-6½ years after operation.
Wertheim,[102] 19.3 per cent., 5 years after operation.*
Döderlein,[16] 1902, 16.2 per cent., 2½-3½ years after operation.
Döderlein,[16] 1903, 22 per cent., 2½-3½ years after operation.
Von Franque,[28] 10.1 per cent., 3 years after operation.
Von Franque,[28] 19.4 per cent., 2 years after operation.
Von Rosthorn,[85] 2.65 per cent., 5 years after operation.
* Awaits returns from 30 per cent.

The advisability of removing enlarged and carcinomatous glands, when such are found at the operation, is still one of the mooted questions in the performance of radical abdominal operation. While most operators agree that when such enlarged and carcinomatous

glands are found, a recurrence is the rule, and in spite of the fact that Wertheim and others consider the wide excision of the parametria as the all-important factor in the operation, the following reports of patients alive without recurrence five years after operations in which such carcinomatous glands were removed commands our serious consideration.

PERMANENT CURES FROM ABDOMINAL OPERATION IN WHICH CARCINOMATOUS GROWTHS WERE REMOVED

Emil Ries,[14] in 1906, reported four cases in which carcinomatous glands were removed at the time of operation; the patients were free from recurrence five years after operation.

Döderlein[10] has two patients with carcinoma of the cervix who were operated on in 1902, with simultaneous removal of carcinomatous glands, who have remained free from recurrence four and one-half years. He also has three other patients, operated on in 1903, who have remained free from recurrence for three to three and one-half years.

Wertheim[16] has had four similar cases with freedom from recurrence from three to three and one-half years after operation.

Mackenrodt[16] had eighteen cases of radical operation with the removal of carcinomatous glands which, as reported by Brunet, are as follows:

Three	cases in 1901,	1 patient	remaining well	without recurrence
Four	cases in 1902,	3 patients	remaining well	without recurrence
Nine	cases in 1903,	7 patients	remaining well	without recurrence
Two	cases in 1904,	1 patient	remaining well	without recurrence

Von Rosthorn[85] had one case with ultimate recovery.

Bumm[85] had two cases in which carcinomatous glands were removed, in one of which the right ureter had become infiltrated with cancer which necessitated the removal of the right kidney; both patients were well after two and one-half years.

Veit[89] reports one patient alive after five years in whom the glands were probably carcinomatous.

CONCLUSIONS

From the foregoing summary we are warranted in drawing the following conclusions regarding the operability, primary mortality, permanent results and absolute cures obtained from the radical abdominal operation for uterine cancer:

1. Among Continental operators, including Wertheim's figures, an operability of 65.17 per cent., a primary mortality of 19.94 per cent., a permanent cure from three to five years in 40.72 per cent. (five operators) and an absolute cure in all cases of 21.14 per cent. (five operators with period of observation from two to six and one-half years).

2. Wertheim's figures are an operability of 60 per cent.; a primary mortality of 10 per cent.; permanent cures after five years in 58.6 per cent., and an absolute cure of all cases in 19.3 per cent., with a probability of 30 per cent.

3. Other Continental operators exclusive of Wertheim's figures, give an operability of 65.54 per cent.; a primary mortality of 13.79 per cent.; an average permanent cure five years after operation in the hands of four other operators of 36.25 per cent., with an average absolute cure in all cases three to five years after operation in the hands of four operators of 21.44 per cent.

4. Eleven American operators give an average operability of 35 per cent.; a primary mortality of 15.17 per cent.; permanent cures after five years, 8.39 per cent. On this basis the absolute cure would be approximately 1 per cent.

In Table 6 is found a comparison of the results obtained from the radical abdominal operation with those obtained from other operations for cancer of the uterus.

From the review it is apparent that the best results in the surgical treatment of uterine cancer are obtained from radical abdominal operation.

The real problems at the present time in the surgical treatment of uterine cancer are not what particular operation gives the best results, but, rather, how such patients can be operated on earlier and how the primary mortality of the radical abdominal operation can be further reduced.

The first problem can be solved only by a campaign of education in our medical schools and in our medical societies, together with some form of public instruction similar to that which has been inaugurated in Germany by Dührssen and Winter. The problem of reducing the primary mortality is one which I believe will be solved largely in the next few years. Further experience with the technic of the operation, the use of spinal anesthesia, perhaps the more general employment of Mackenrodt's transverse abdominal incision, Bumm's modification of Wertheim's technic for quickly locating the ureters, further experience with implantation of the ureters in the blader, diminution of the exposure and manipulation of the viscera, and the diminution of the dangers from hemorrhage either by Momburg's method or by temporarily clamping the internal iliac arteries, are some of the methods and procedures which, combined with early operation, will help toward solving this problem.

THE PARTICIPATION OF THE TISSUES ADJACENT TO THE UTERUS AND OF THE PELVIC LYMPHATICS IN UTERINE CANCER*

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Cancer may arise either in the body or in the cervix of the uterus. The former variety is infrequent, occurs as often in nulliparous as in parous women, and the average age of those afflicted is greater than in cancer of the cervix. Its growth is usually slow and it remains restricted to the uterus for a relatively long period of time (Fig. 1). For the latter reasons the diagnosis is usually made while it is limited to the uterus, and hysterectomy for this condition is attended with a low primary mortality and a high percentage of cures.

Cancer of the cervix, on the other hand, is one of the most frequent varieties of primary carcinoma; it usually occurs in parous women; and it is more often a disease of midlife than of old age. (A large percentage of its victims are under 45; and its occurrence in those under 35 is not infrequent.) Its growth is often rapid and it soon extends beyond the cervix by the direct invasion of the adjacent tissues (Fig. 2) and by metastases to the lymph structures of the pelvis. Its frequency, virulence, the youth of many of its victims and the fact that they usually have children make it one of the most dreaded diseases and one of the most important problems confronting the gynecologist at the present time. Its rapid growth and early extension

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at St. Louis, June, 1910.

* For reasons of space, part of the text and of the illustrations are omitted. The entire article appears in the Transactions of the Section and in the author's reprints.

beyond the uterus have in a large measure been responsible for the failure to recognize it while it is still confined to that organ. In a large percentage of the cases the condition is detected too late for anything but palliative treatment, and hysterectomy is attended with a high primary mortality and a very small percentage of cures.

On account of its greater frequency, malignancy and importance, cancer of the cervix alone will be considered in this communication.

Clinical experience has taught that only a small percentage of patients have been cured by operation; thus

Fig. 1.

Fig. 2.

Fig. 1.—Advanced cancer of the body. From photograph of stained median sagittal section of the uterus (× ½), operative speciment. The growth usually does not extend beyond the uterus until late in the course of the disease, and in the majority of cases the diagnosis is made before this has taken place. Hysterectomy is attended with a low primary mortality and a high percentage of cures.

Fig. 2.—Advanced cancer of the cervix. From photograph of stained median sagittal section of the uterus (× ½), operative specimen. The growth usually extends beyond the cervix early in the course of the disease and the diagnosis is rarely made while it is restricted to the uterus. Hysterectomy is attended with a high primary mortality and a very low precentage of cures.

suggesting that either the entire growth had not been removed or, through faulty technic, the pelvic tissues had been infected with cancer at the time of the operation, or that there has been a true recurrence of the disease.

It is evident that a knowledge of the exact extent of the disease, especially in the "operable" cases, is of the greatest importance in the intelligent treatment of this condition.

The study of the specimens removed by the more radical operations has shown that the disease had extended beyond the uterus in a large percentage of them. The careful studies of Kundrat[1] in Wertheim's clinic have been of great value. Similar studies have been made in other clinics and they all, in the main, confirm the findings of Kundrat.

In 1906 I reported[2] the results of a careful study of twenty-seven specimens removed in Dr. Kelly's clinic at the Johns Hopkins Hospital. Cancer was found in the parametrium in seventeen instances, eight times as direct extension alone, either in the form of thread-like processes or *en masse:* three times as metastases in the lymph structures of the parametrium without any evidence of a direct extension of the disease from the cervix; and in six cases both forms of invasion were present. In nineteen cases some of the pelvic lymph-nodes had been removed, and cancer was found in nine of these. In three of the latter there was no evidence of cancer in the parametrium. I am at present studying the material from eighteen additional cases; fourteen of the specimens were obtained by me at operation, and four at autopsy from patients dying during the advanced stages of the disease. While these studies are not yet completed they confirm the findings in the previous report.

1. Kundrat: Arch. f. Gynäk., 1903, lxix, 355.
2. Sampson, J. A.: Am. Jour. Obst., 1906, liv, 433.

We may classify cervical cancer according to its origin, whether from the portio vaginalis or from the mucosa of the cervical canal. Irrespective of their situation or histologic structure the growths may usually be grouped as either everting (vegetative) or inverting (infiltrating). Intermediate types are seen, and possibly in the progress of the disease a growth may sometimes pass from one morphologic type into the other.

The everting type, arising from the portio vaginalis, forms a sessile or pedunculated tumor projecting into the vaginal canal; it tends to spread over the mucosa and gradually invades the underlying tissues (Fig. 3). It is apparently less malignant and less frequent than the inverting form.

In the latter variety the process seems to be reversed. The growth soon extends into the deeper tissues and sometimes with very little evidence on the surface (Fig. 4). Necrosis often occurs early with a resulting loss of tissue and the formation of the so-called ulcers. This variety is apparently the more frequent one and also the more malignant. It soon extends beyond the uterus by the direct invasion of the adjacent tissues and by metastases to the lymphatic structures of the pelvis.

The two varieties may also arise from the mucosa of the cervical canal; here the inverting form is the more frequent and malignant (Fig. 5).

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 3.—Everting cancer of the portio vaginalis (× ½). Less frequent and malignant than the following; bleeding usually occurs early, the growth is readily detected on inspection and palpation.

Fig. 4.—Inverting cancer of the portio vaginalis (× ½). One of the most frequent and malignant types; bleeding may not occur until late in the course of the disease and the diagnosis is not as easily made as in the preceding.

Fig. 5.—Inverting cancer of the cervical canal (× ½). This type is apparently less frequent and less malignant than the same type arising in the portio vaginalis; bleeding may not occur until late in the course of the disease. In its early stages a diagnosis can be made only through curettage of the cervical canal.

THE DIRECT EXTENSION OF CANCER INTO THE TISSUES ADJACENT TO THE UTERUS

Cancer may invade the tissues adjacent to the uterus as delicate thread-like processes or *en masse.* These processes are sometimes found in the nerve sheaths, other times in definite lymph-vessels but more often in whatever tissues are nearest the growth, in what are known as lymph-spaces. The parametrium is the tissue most frequently involved and often

near the junction of the cervix and the vagina (Fig. 6). This is a very unfortunate situation because here the cervix is in its closest proximity to two very important structures, namely, the bladder and the ureters (Fig. 7). Furthermore, it is very difficult to obtain a wide excision of the parametrium at this level, whereas higher up, where the direct extension is less frequent, a wide excision is much easier. The growth may extend anteriorly, laterally or posteriorly. In its anterior extension it soon reaches the bladder, in its lateral, the tissues about the ureters, while posteriorly it is separated from the rectum by the cul-de-sac. The place at which the cancer extends beyond the cervix is determined by many factors, such as its origin, *i. e.*, whether in the portio vaginalis or the mucosa of the cervical canal, whether in the anterior or posterior lip and whether near the right or left side. There are other factors determining the direction of its growth which we are unable to ascertain.

The reaction on the part of the tissues involved varies greatly in different specimens. Often there is an increase in connective tissue; at other times an inflammatory exudate is present; and again there may not be any apparent reaction on the part of the tissue surrounding the growth. The reaction may sometimes be due to the presence of bacteria in the necrotic portion of the growth, but I think that it is often due to the cancer itself, because the tissues involved by the metastases may show the same reaction as those involved by the primary growth.

The Bladder.—In the study of the specimens obtained in the forty-one operative cases the musculature of the bladder wall was found to be invaded by cancer in eight (Fig. 8). In seven of these it occurred at the level pre-

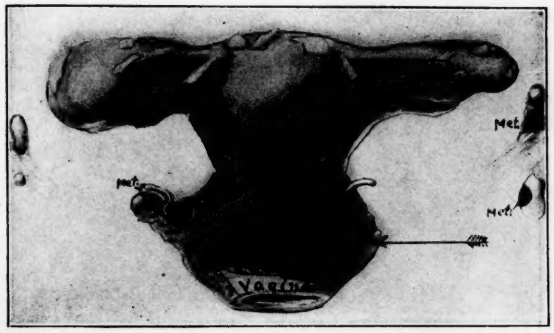


Fig. 6.—The most frequent situation of the direct invasion of cancer into the parametrium. From drawing showing the extent of the cancer in an illustrative case (× ½). In over half of the operative cases the parametrium is already invaded by cancer. This occurs most frequently at the junction of the cervix and vagina (see arrow), where the cervix is in its closest proximity to the bladder and the ureters.

viously mentioned. If the growth causes a marked reaction in the surrounding tissues, the bladder may become adherent to the cervix before the growth has extended through the cervical tissues. This may be detected during the operation in attempting to free the bladder from the cervix.

The early involvement of the bladder has not received the attention it deserves. Its most important feature is that the growth may invade the intramural portion of one or both ureters.

The Ureters.—It is well known that hydro-ureter and hydronephrosis, due to compression or actual invasion of the lower end of the ureters, exists in a large percentage of the patients dying in the advanced stages of the disease. The renal insufficiency resulting from stricture of the ureters is a frequent cause of death. The proximity of the ureters to the cervix, the early invasion of the parametrium, especially at the level where the ureters are nearest the cervix, the frequency of accidental injury to these ducts in hysterectomy for uterine cancer, together with the autopsy findings mentioned above, would cause one to infer that the ureters were actually involved by the growth soon after its extension from the cervix. I have studied very carefully the parametrial portion of twelve ureters (twice a dou-

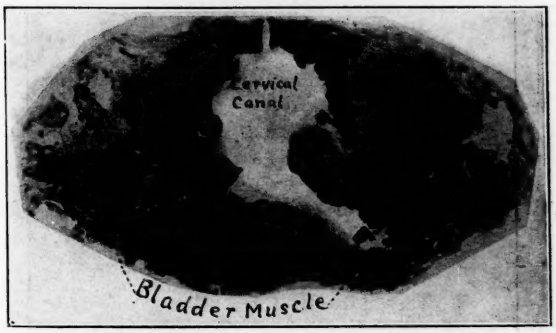


Fig. 8.—The direct extension of cancer into the bladder wall. From photograph of stained cross-section of entire cervix (× 1), operative specimen. The growth has invaded the parametrium laterally and the bladder wall anteriorly. The bladder is often invaded early in the direct extension of cancer from the cervix.

ble ureter was present, thus making fourteen) which had been resected on account of the apparent invasion of the parametrium about the ureters by cancer. In four cases both ureters had been resected and in four only one. In only one instance was I able to find a ureter actually invaded by cancer. In all these cases cancer was present in the parametrium and in some the invasion extended into the tissues about and even beyond the ureter. The single instance of invasion of the ureter occurred in its intramural (vesical) portion from cancer present in the wall of the bladder.

I have concluded (possibly from insufficient data) that the ureter is rarely invaded in the operative cases and have attributed this to three possible factors, first, its peristalsis; second, the protection afforded by its "sheath," and third, that there may be sufficient difference in the lymphatics of the cervix and ureters to render the early invasion of the latter infrequent. It seems remarkable that in a series of forty-one cases the bladder was involved in eight instances and a ureter only once and yet we realize that the main lymph-channels from the cervix cross the parametrial portion of the ureter. In previous papers I have called attention to the "ureteral sheath" and have stated that I believed that the peristalsis of the ureter converted the tissues about it into a form of sheath which is not a distinct anatomic structure but simply the tissues along the course of the ureter which had been molded into this shape (Fig. 7). In those cases in which the parametrium is invaded and there is a reaction on the part of the tissues involved with the formation of connective tissue, this "sheath" may become markedly hypertrophied (Figs. 9 and 10). In this hypertrophied condition it may afford temporary protection to the ureters. As this hypertrophy increases the ureter becomes compressed and later may become

invaded by cancer. This marked thickening of the "sheath" may possibly arise from two sources, first, the reaction arising from its invasion by cancer and second, the local irritation caused by the ureter rubbing against it during its peristalsis.

From the study of material obtained at autopsy of those dying in the advanced stages of the disease I have found that the ureter may become involved from three sources; first, its intramural (vesical) portion from cancer in the bladder wall (Fig. 12), second, its parametrial portion from the direct extension from the primary growth (Fig. 13) or from metastases to lymph-nodes of the parametrium, and third, the pelvic portion above the parametrium from the direct extension from metastases in the pelvic lymph-nodes. Once gaining access to the ureter, the growth may extend in its walls and sections taken at other levels may show what appear like metastases in the ureter (Fig. 14).

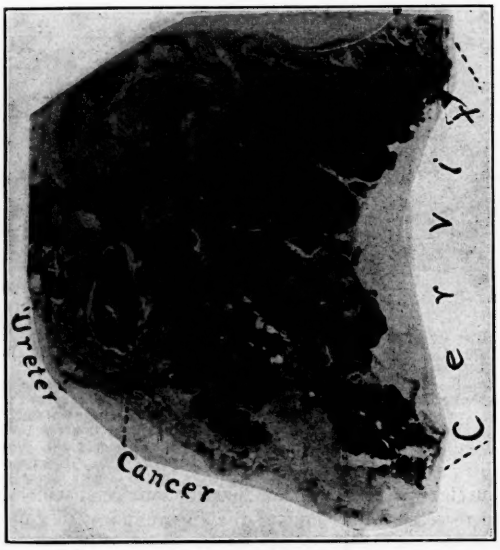


Fig. 9.—The direct extension of cancer into the tissues about the ureter. From photograph of stained cross-section of right half of the cervix and adjacent tissues (× 2), operative specimen. The growth has invaded the tissues (sheath) about the ureter, causing a hypertrophy of the latter, which may temporarily protect the ureter. The tissues about the ureter are often involved early in the direct extension of cancer from the cervix.

The Vagina.—The involvement of the vagina presents three pictures: the direct extension over the surface, the direct invasion of the deeper structures from above which may appear without any evidence of the disease on the surface other than a slight elevation caused by the growth in the underlying tissues, and finally the so-called implantations. Aside from an occasional slight involvement of the vagina at its junction with the cervix, in only four of the forty-one operative cases was there any marked invasion of its tissues.

I have had the opportunity to study only one "vaginal implantation" where the tissue between it and the primary tumor was intact. In this instance I found that the implantation was apparently connected with the primary tumor by a thread-like process of cancer, *i. e.*, it was a direct extension of the growth and did not result from a "retrograde metastasis" or implantation of cancer cells in an abrasion of the vaginal mucosa. I used the word "apparently" because complete serial sections were not made and thus I cannot state that the thread of cancer was intact for its entire course from the primary growth to the nodule in the vaginal mucosa.

Rectum.—In only one of the operative cases was the rectum invaded, and this resulted from the direct extension posteriorly with obliteration of the cul-de-sac and invasion of the anterior wall of the rectum. The rectum may also be invaded by the extension of cancer in the posterior vaginal wall.

Body of the Uterus, Tubes, and Ovaries.—The body of the uterus was involved in only seven of the forty-one cases, and in all of these the disease was advanced. This is more apt to occur in cancer arising in the cervical canal, espacially if it is of the adenomatous variety. The tubes and ovaries were not examined microscopically in this series, but there was no evidence of cancer in them which could be detected in the gross specimens.

METASTASES

Apparently if cancer once gains access to a lymph-vessel it either grows in the vessel in continuity with the primary growth or, if set free, it is carried by the lymph-stream and usually does not stop until it reaches a lymph-node whether it be situated in the parametrium or further on. Metastases to structures other than lymph-nodes are very unusual.

Metastases may be divided into four regional groups: the parametrium, pelvic lymph-nodes, abdominal lymph-nodes, and lastly, other parts of the body.

Parametrium.—Metastases to the lymphatic structures in this situation are of frequent occurrence. A careful study of the parametrium has been completed in thirty-two of the forty-one operative cases and parametrial metastases were found in ten of these. In this situation we may recognize four varieties of lymph-nodes:

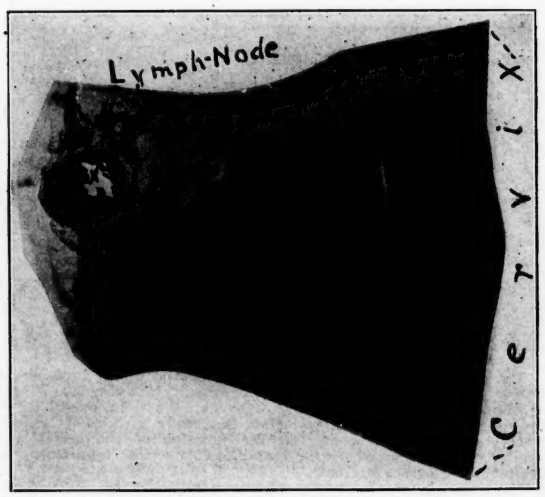


Fig. 15.—Metastasis in lymph-node inconstantly present near the crossing of the ureter by the uterine vessels. From photograph of stained cross-section of right half of the cervix and adjacent tissues (× 2), operative specimen.

1. *The Parametrial Lymph-Node Inconstantly Present at the Crossing of the Ureter by the Uterine Vessels.*—It was found and removed eight times in this series of forty-one cases (and only on one side). Cancer was present in three of the nodes removed and in none of these did it apparently alter in any way the surrounding tissue (Fig. 15).

2. *Small Lymph-Nodes Scattered Throughout the Parametrium.*—These are apparently typical lymph-nodes and occur normally in varying number. They are usually found along the course of the main lymph vessels. In one instance a typical node was found in the tissues of the cervix itself (outer portion). Metastases were found in these nodes in four of the thirty-two cases in which a complete study of the parametrium has been made (Fig. 16). In one case there was a thickening of the tissues about the node and in another the retrograde growth of the cancer from the node into the afferent lymph-vessel. The infected nodes were apparently not increased in size and in two there was no change in the surrounding tissues.

3. *Intravascular Lymph-Nodes.*—These small nodes project into the lumen of the lymph-vessels like sponges. I do not know if they may occur normally in the parametrium or if they may be associated with diseased uterine conditions other than cancer. I have found them in only four specimens of uterine cancer and only in the parametrium. In three of these four cases, cancer was found in one or more of these nodes (Fig. 17). Possibly they are newly formed lymph-nodes and later develop into the small lymph-nodes previously described; or they may be the latter observed under different conditions of activity. In one specimen they were very numerous; in a section taken at one level eight were present.

4. *Small Lymph-Nodes Which Apparently Do Not Bear Any Relation to the Lymph-Vessels.*—Collections of lymphoid tissue about blood-vessels may be present in large numbers, appearing in the section as darkly stained areas the size of miliary tubercles. They apparently owe their origin to a stimulus directly or indirectly

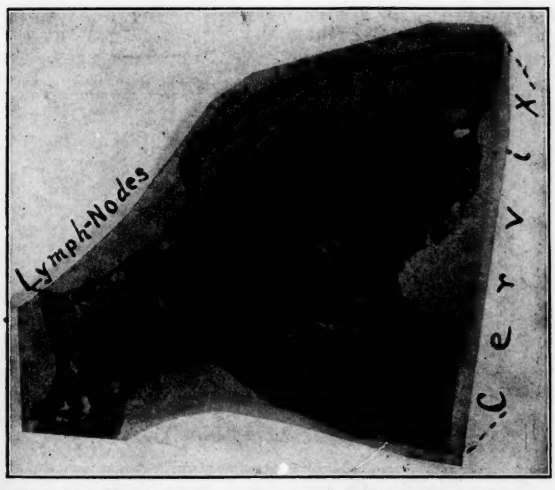


Fig. 16.—Metastasis in a small lymph-node of the parametrium. From photograph of stained cross-section of right half of the cervix and adjacent tissues (× 2), operative specimen. These nodes are normally present in varying numbers and are apparently sometimes increased in size and number in uterine cancer. A metastasis is present in the periphery of the larger node. It is possible that these nodes may sometimes prevent metastases from reaching more distant nodes.

caused by the cancer, but do not necessarily bear any relation to the lymph-vessels. I have never seen any metastases in these nodes.

Pelvic and Abdominal Lymph-Nodes.—The study of the material obtained from those operations where some of the pelvic lymph-nodes have been removed have shown that metastases occur in from one-third to one-half of these cases. I have studied the material from twenty-three of these cases and found cancer in the pelvic lymph-nodes in twelve. While these metastases occur more frequently in patients with extensive primary tumors they may be present in very early cases. The primary tumor may be very small, the parametrium free and yet metastases may be present. This occurred especially in the inverting type arising in the vaginal portion of the cervix. The glands most frequently found involved were those situated in the triangle between the external and internal iliac vessels and along

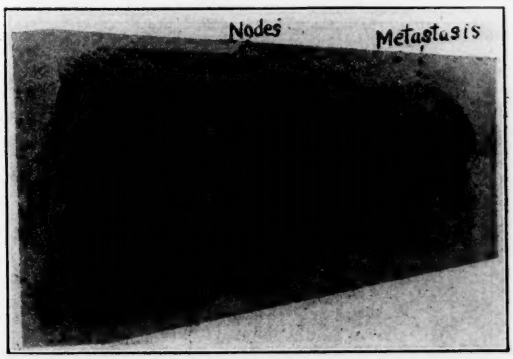


Fig. 17.—Metastasis in an "intravascular" lymph-node of the parametrium. From photograph of stained cross-section of the left half of the parametrium (× 2), operative specimen. These nodes project into the lumen of the lymph-vessels like sponges, are possibly newly formed, and it is possible that they sometimes check cancer as it is carried along the lymph-vessels.

the external iliacs. I do not think that my observations are of any great value in determining the exact distribution of metastases in the pelvic lymph-nodes because the above mentioned nodes were the ones most frequently removed and often others were not removed which might have been infected.

I have studied all the abdominal and pelvic lymph-nodes in three operative cases. The patients died as the result of the operation and the lymphatics were obtained at autopsy. All the glands were cut and an attempt was made either to find or to exclude cancer. Metastases were found in only one of these cases. In this instance three nodes were found to contain cancer (Fig. 19).

The early metastases are usually found in the periphery of the node along its convex border or near its proximal pole. The reaction varies greatly (Fig. 20).

Metastases to the lymph-nodes in other parts of the body may occur but they are very infrequent.

CONCLUSION

The term "cancer of the uterine cervix" defines the exact condition present in only a very small percentage of the cases when first seen by the physician. In more than half of them the growth has so extensively invaded the adjacent structures that palliative treatment alone is indicated and in over half of the operative cases the growth has already extended beyond the uterus. As in its extension it invades the lymph-spaces of the adjacent tissues and metastases occur in the lymph-nodes of the parametrium, pelvis and even the abdomen, this condition should be studied and treated as carcinoma of the lymphatics of the uterus and adjacent tissues.

In its direct extension the lymph-spaces of the parametrium are usually first invaded, then those of the

bladder wall and rarely, in the operative cases, those of the ureters, although the tissues about them may be infected and in this way the ureter may be compressed. Later in the course of the disease one or both ureters are very apt to be invaded.

Metastases to the pelvic lymph-nodes are present in at least one-third and possibly over half of the operative cases. While they are more frequently found in the advanced than in the early ones, they may be present in cases in which the primary growth is very small and the adjacent tissues free from cancer. Metastases to the abdominal nodes are sometimes present in the operative

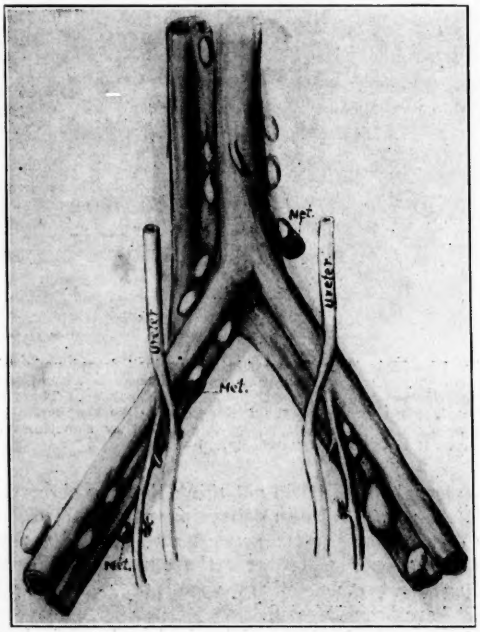


Fig. 19.—Metastases in the pelvic and abdominal lymph-nodes. The patient died on the fifth day after the operation. The abdominal and pelvic blood-vessels with their accompanying lymphatics were removed at autopsy. The lymph-nodes represented were found and carefully studied. Metastases were found in those indicated.

cases. I do not know their frequency and whether or not they may be present in the very early ones.

Should the operative treatment of this condition be based solely on laboratory findings it would consist in first, dissecting the lymphatics from the blood-vessels of the lower abdomen and pelvis, then freeing all the tissue lateral to the cervix from each pelvic wall and removing it, together with the lower portion of both ureters, the uterus and any portion of the bladder wall which may be adherent. We know that the ureters are actually invaded by cancer in only a small percentage of the operative cases but the tissue about them is very likely to be invaded and the main lymph-vessels cross them. In order to remove this tissue undisturbed the lower portion of the ureters would have to be sacrificed. The clean dissection of the lymphatics of the lower abdomen and pelvis is very difficult even in a cadaver and takes a long time—too long with our present technic for any patient to stand on the operating table. The resection of the ureters and their implantation into the bladder is attended with the danger of compressing them, thus causing renal insufficiency and possibly leading to renal infection. Such an operation is attended with a prohibitive primary mortality.

My own experience in the early cases with a wide excision of the parametrium and freeing the ureters with or without the removal of the accessible pelvic nodes has been attended with a very low primary mortality (I have not lost a favorable early case) and I hope for a high percentage of cures. This group of cases is small and sufficient time has not elapsed to render my statistics of any definite value. On the other hand, the operative treatment of the advanced cases, in which I have sacrificed a portion of one or both ureters or resected portions of the bladder wall (and in one case a portion of the rectal wall) has been attended with a high primary mortality (50 per cent.) and the growth has recurred in all patients who have survived the operation. The treatment of the so-called border-line cases, in which there has been a wide excision of the parametrium with freeing the ureters, has also been attended with a high primary mortality and the growth has recurred early in the majority of them. On the other hand two patients who were operated on in July, 1905, and which were unfavorable cases, are at present apparently free from cancer. In one of these, metastases were found in the pelvic lymph-nodes. Such instances as these encourage one to operate in unfavorable cases.

As a result of a combined laboratory and clinical study I wish to emphasize the following points:

1. In over one-half of the operative cases the growth has extended beyond the uterus at the time of the operation and the recurrence after operation is usually (possibly always) but a continuation of a growth not entirely removed.

2. Certain types are more malignant than others. In my experience the inverting type arising in the portio vaginalis is the most frequent and most malignant variety, the same type arising from the mucosa of the cervical canal is less frequent and less malignant, while the everting type is still less frequent and malignant. As

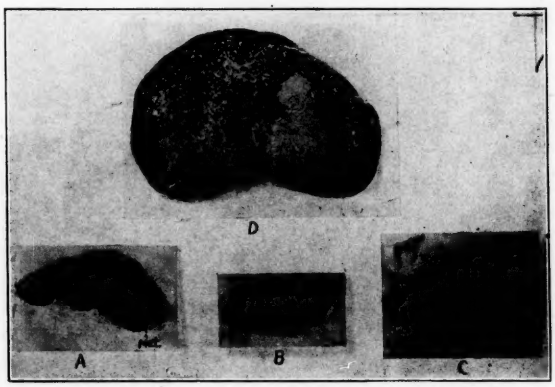


Fig. 20.—Metastases in pelvic and abdominal lymph-nodes showing variations in reaction on part of nodes. From photograph of stained sections of these nodes (× 1), operative specimens. A, early metastasis in the proximal pole of an iliac node. The node is apparently hypertrophied, but there is no reaction in the tissues about it. B, metastasis in a similar node. Over half of the node has been replaced by cancer, yet the node is apparently but very little increased in size and the tissues about it are unaltered. C, another metastasis showing that the cancer has invaded the surrounding tissues and these are markedly thickened. D, lumbar node diffusely invaded by cancer and greatly enlarged. There was no reaction on the part of the surrounding tissues.

was stated in the beginning of the paper, carcinoma of the body is so much less frequent and less malignant than cervical cancer that it was not further considered in this paper.

3. The reaction on the part of the tissues invaded by cancer varies greatly.

A. Sometimes there is very little, thus suggesting that it is unable to resist its invasion.

B. At other times there is a marked increase in connective tissue about the cancer which may retard its growth.

C. The lymph-nodes of the parametrium are sometimes increased in size and new ones are apparently formed. These may check metastases.

4. We are unable to judge definitely of the extent of the disease before the operation.

A. The growth may appear to be very early and yet metastases may be present (especially true of the inverting type).

B. The primary growth may seem very extensive and yet be entirely local.

C. A normal-feeling parametrium does not exclude the possibility of cancer in its tissues.

D. The induration felt in the parametrium is not always due to carcinoma.

E. For the above reasons an apparently favorable case may prove unfavorable and *vice versa*. Exploratory operations are sometimes justifiable.

5. The most radical operation consistent with a "permissible primary mortality" is indicated, especially in the early cases. The first requisite of this operation is a wide excision of the parametrium. The routine removal of the pelvic lymph-nodes is still, in my mind, a debatable procedure with our present technic. If the nodes have not been removed, cancer has been left behind

Fig. 21.—Advanced cancer of the cervix with extensive involvement of the bladder and resulting vesicovaginal fistula (patient only 25 years of age). From photograph of median sagittal section of the pelvis. Line A-B indicates the plane at which the section illustrated in the following figure was taken.

in at least one-third and possibly in over half of our operative cases. Against their removal it may be said that it increases the primary mortality and that patients in whom metastases have not yet occurred will die from the operation who would have survived had this not been done. It is also impossible to remove at operation all the lymph-nodes which may be infected, and at best we must be satisfied with their incomplete removal. The more thorough and complete the operation the greater the chance for curing the patient and for these reasons we should do the most thorough operation which we believe that each individual patient will stand.

6. Extensive operations in advanced cases are usually unjustifiable and great care should be exercised in the choice of the border-line cases in which operation should be done.

7. *The most important aid to the treatment of this condition is an earlier diagnosis.*

8. An earlier diagnosis could have been made in the majority of our cases. Sometimes symptoms referable to the growth do not arise until late in the course of the

Fig. 22.—Cross-section of the pelvis through the plane A-B in Figure 21. Wires are inserted in the lumina of both ureters. The one in the right ureter can be seen protruding into the bladder at the margin of the vesicovaginal fistula. The ureteral walls are invaded by cancer, causing hydro-ureter, hydronephrosis with resulting renal insufficiency and death.

disease, but in *over half* of the *forty-one operative cases* referred to in this communication there was a history of *neglected uterine bleeding* of *over six months' duration.*

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SAMPSON, JACOBSON, RIES, AND FREDERICK, CONSTITUTING A SYMPOSIUM ON CARCINOMA OF THE UTERUS

DR. GEORGE GELLHORN, St. Louis: The papers have presented so many phases of the subject that I shall confine my remarks to the paper presented by Dr. Frederick. Dr. Frederick has spoken of the cautery for two different purposes, if I understood him correctly; one for the purpose of radically curing a cancer, and the other for the purpose of treating inoperable cases of uterine cancer. I wish to refer only to the second use of the cautery. I can confirm the statement of Dr. Frederick that the thermocautery will relieve the symptoms for a short time but I must insist that any lasting good effect can be accomplished only by a methodical repetition of its use. Only if it be applied every four weeks for six or seven months in succession is a good result likely to occur. Unfortunately the patients do not return for such repetition; at least, my experience has been that a patient would come a second time, but I have yet to see the patient who would

come back to the hospital for a third cauterization, so that the good effect of the cautery remains more or less theoretical. The majority of inoperable cases after all are in the hands of the general practitioner and the cautery is hardly an appliance of general practice. The odor of the profuse discharge and the hemorrhage are so overwhelming that the practitioner is practically helpless. The acetone method is especially suited to his needs. Regarding the criticism made by Dr. Frederick, I would state that the penetrating effect of acetone seems to be very great. From our laboratory knowledge we know that it deeply penetrates dead tissues, and it is only logical to suppose that the penetration in living tissue is even more quick. Two and a half months ago I curetted an inoperable cancer and after the excochleation the opening was large enough to admit a speculum about two inches in diameter. On Monday last I only succeeded in introducing a very small vaginal nozzle into the crater in order to pour the acetone in. This would show that the penetration is sufficiently deep and the resulting formation of scar tissue satisfactory. Of course, these patients all die, but we are able to keep them alive from one to two years and in comparative comfort. One of our patients in the St. Louis Skin and Cancer Hospital who had been declared inoperable by Wertheim when he was in St. Louis occupied her position as scrub-woman in a downtown office a year after having been declared inoperable, earning a livelihood for herself and family. The woman died almost two years after the first treatment and might have lived longer except that the absence of symptoms induced her to stay away from our treatment. The acetone treatment is a very simple method and can be used in the hands of the general practitioner who has not hospital facilities. The lesion should always first be curetted very thoroughly. I use a large spoon devised by Dr. Boldt. After curetting, I insert a Ferguson speculum into the bleeding wound and then pour the acetone into it. In all the cases that we have observed the bleeding has been checked. We use the pure acetone, a chemical that is used for the wholesale preparation of chloroform, and also in machine-shops for dissolving fats. It is poured into the speculum and left there for fifteen or thirty minutes. It is then permitted to run out, a piece of gauze soaked in the acetone is inserted into the wound and the speculum is removed. The patient is returned to bed, which she may leave the next day. Regular treatment is begun five days after this preliminary treatment and applied three times a week for several weeks. As the symptoms improve we gradually lengthen the intervals. I have again and again tried to curette these lesions after five or six or seven weeks of treatment and I have hardly ever succeeded as the walls are hard and smooth in contradistinction to the spongy character of the original excrescences. The subsidence of the symptoms of the patient, aside from the relief of hemorrhage, odor and discharge, is very marked. Perhaps owing to its chemical relationship to chloroform the acetone seems to have an anesthetic effect on the patient. In many cases the pain disappears. When the cancer has reached the nerves, of course, the acetone does not relieve pain. In those cases we have to resort to morphin. Certainly, however, the subjective symptoms of cancer have been greatly relieved by this method, and we have, after trying various other methods, always returned to this and shall continue to use it until we find something better. At that time, however, we shall be the very first ones to adopt the better method.

DR. REUBEN PETERSON, Ann Arbor, Mich.: I have been much interested in the Ries operation for the radical cure of cancer of the uterus ever since Dr. Ries brought forward his operation in 1895. I had the good fortune to be associated with him shortly after that time in the Chicago Post-Graduate Hospital. I can only praise the thorough work which Dr. Ries has done with his operation and the consistency with which he has followed along one line. But I differ with Dr. Ries because of my own experience. We are not partial to any one operation unless it will save the most patients. My experience with the radical operation for cancer of the uterus as I tried to carry it out according to Dr. Ries' directions, gave me such a high mortality that I concluded that if I could do a less radical operation and save more lives, the women at least would be better off. I agree with Dr. Ries that statistics based on less than 100 cases do not count for much. Yet, right after that he gives his own statistics with much less than that number. We must talk about our results for that is what we have to go on. My mortality for the first fourteen cases was 42 per cent. That is a shocking mortality to anybody who is doing abdominal work. Out of the seven patients that have been operated on for five years there are four alive. Two of these had carcinoma of the fundus, which Dr. Ries very properly says are in another category. Still. theirs are cancer cases and in my hands prior to this abdominal operation I did not save such patients. You say it is easy to save them, but I didn't. I remember only one patient whom I operated on for carcinoma of the body that I saved by the old method. So setting aside, if you please, the two cases of carcinoma of the fundus I have two patients out of seven to my credit who have lived beyond five years. Since that time I have been doing less radical work, not making such extensive dissection of the glandular tissue as Dr. Ries recommends. My primary mortality is much better, as of course, he will say it should be. The operation, even when one does not dissect out the glands, is a terrible one and I agree with him it is the worst we have to perform. In my last twenty-three cases I lost but one patient. Some have lived for over three years. I do not know whether they are going to live beyond five years, but I know that the mortality is much more satisfactory, and taking that as a whole I think I shall be better off as far as saving these women is concerned than if I did the radical procedure.

Statistics improve with the operator's experience. I can now see my mistakes with my first cases. I have had the same experience that Dr. Ries and others have spoken of, that when you begin with this operation you have an idea that when the uterus seems to be firmly fixed in the pelvis the patient is beyond hope. I quite agree with the essayist when he says that every operation should be an exploratory laparotomy. In some of the cases it is a matter of surprise to find that the induration to one or the other side of the cervix is really inflammatory tissue and not carcinomatous.

There is a certain class of patients whom I exclude from this radical operation irrespective of the extent of their disease because the primary mortality is so great. Such patients are the excessively fat women. They die from the operation almost invariably and I think that I shall do better by them in carrying out the palliative treatment because in my hands, at least, they do not stand the ghost of a chance of surviving with the radical operation.

DR. A. GOLDSPOHN, Chicago: I also admire the radical work which Dr. Ries has done; but when we consider the results of very extensive autopsies in uterine cancer cases, particularly those made by Schauta, which show that in only about one-fourth of all the cancer cases the glandular involvement is located only in or near the pelvis, so that thorough operation and search for the glands is rational, we feel that extreme searching for glands is irrational and disappointing. We all know the extensive research work which Schauta has done in some eleven or twelve thousand post-mortem examinations of glands. The conclusion of the matter is that if these ideas of thorough extirpation are to be actually followed, then the operation, which consists in eliminating the human trunk, as Dr. Ries has mentioned, would be necessary.

In the majority of cases the metastatic glands are located in both the upper and the lower parts of the abdominal cavity. In a small proportion they are in the upper part only. In all of these the extreme search for glands means the cutting short of many lives by unwise operating, for no good reason. Since recurrence most commonly takes place in the cicatrix of the amputated vagina a very liberal exsection here is called for. A procedure which I like consists in doing an abdominal hysterectomy with a moderate search for glands. Take out the uterus thoroughly with the adnexa and broad ligaments as closely up to the bony limits as possible. Get the entire uterus free from everything except the vagina. Dissect the upper part of the vagina also from the connective tissue area.

Then tuck the whole uterus with the inverted vagina down into the small pelvis. Close over the small pelvis by peritoneum from different directions at about the level between the true and false pelvis and close the abdomen. Then go to the vagina and take out the uterus, taking with it the upper portion of the vagina more thoroughly and safely against bleeding than can be done from above. This method has given me rather satisfactory results. Repeated cauterization is also followed by good results, in the inoperable cases. I have seen a number of such patients live quite comfortably for three and four years.

The excellent views of Dr. Sampson have shown what needs to be emphasized—that in the majority of cases cancer of the uterus begins in the upper part of the cervix. Germans have shown that it comes chiefly from retention cysts, *i. e.*, the Nabothian follicles superficially and deeply seated up in the cervical canal. These vulnerable and dangerous glands can mostly be removed in amputations of the cervix, when any operation for lacerated or pathologic cervix is indicated. Such amputation, then, and not the Emmet trachelorrhaphy should be done. As a prophylactic for cancer it will do much more good than the heroic search for glands with the attendant mortality in attempts at cure.

DR. ELIZA M. MOSHER, Brooklyn, N. Y.: The small number of patients with cancer of the uterus who are cured emphasizes what has been said here and for years past on the importance of instructing women in reference to the symptoms and early signs of this disease. Even though we realize the tremendous importance of it, we cannot do very much in our offices in the way of prevention. You will be glad to hear that the committee appointed last year by the House of Delegates, termed the "Public Health Education Committee" has been able during this year, in New York and Brooklyn alone, to give careful instruction on this subject to more than a thousand women, through these lectures. Throughout the United States the same teaching is being carried on, and we are hoping that the number of cases of late cancer will be lessened materially during the next five years through the work of this committee.

DR. HORACE G. WETHERILL, Denver: In regard to the work to which Dr. Mosher has just referred, as your representative in the House of Delegates, I may say that this committee made its report to the House of Delegates yesterday and it was a very comprehensive, dignified and tactful report, showing excellent work on the part of the committee. So far as may be in our power this Section should endorse and support this educational committee.

DR. J. H. JACOBSON, Toledo: Just a word in reference to the statistics that I have shown. I realize full well that everything which Dr. Ries has said is true; that it is very difficult to get statistics in which a genuine radical abdominal operation has been performed, and that it is impossible to get statistics of operations performed as thoroughly as Dr. Ries does them. I was prompted to make this statistical study because the operations ordinarily performed for the cure of cancer uteri, have appeared to me only palliative at best. If we expect to make any advance in this work we must make our operations more radical. I admire Dr. Ries' work very much and have only words of praise for it. Wertheim's results are the best up to the present time. I hope that this statistical study will help operators to adopt this operation which has a higher percentage of permanent and absolute cures than any other.

DR. EMIL RIES, Chicago: Wertheim removes a few glands from a patient and gives a low percentage of carcinoma in the glands. That does not prove anything. If anybody removes glands extensively, as some have done, the number of cases in which carcinoma is found in the glands is about 60 per cent. That means that two out of three women have cancer in their glands when they have carcinoma of the cervix. You take the chances on the 60 per cent. if your main purpose is a large primary recovery. You can do so. You are the physicians and it is for you to say, only be honest with the patient. Tell her what you can do. Wertheim said in Chicago that all the patients in whom he found carcinoma in the glands had recurrence. Why? Because he did not take out enough. The so-called recurrence in the scar in the vagina is not new disease. It is only the consequence of insufficient operation. The operation did not go far enough.

Just a word in regard to Schauta's report. Dr. Goldspohn did not tell you all about it. He did not tell that Schauta's work has been refuted by Mackenrodt. Schauta's paper shows that he examined from six to ten glands in each case, when the smallest number should be approximately twenty. As he overlooks the other fourteen the work of Schauta is absolutely useless. If you have no conception of the meaning of examining glands for carcinoma, try it in one case. I have examined 1,200 sections from one case without finding a single bit of carcinoma, while the next 200 sections were full of it. Anybody not willing to do such work should not talk about it.

REPAIR OF CEMENTUM

IN RELATION TO THE TREATMENT OF ALVEOLITIS *

M. H. FLETCHER, D.D.S., M.D., M.S.
CINCINNATI

Many years ago Dr. William H. Atkinson of New York endeavored to induce repair in the sockets of teeth which were deeply affected with alveolitis, by sponge-grafting, a method of surgery then in vogue.

At that time, from 1885 to 1890, the discussion of the etiology and treatment of the diseases of the sockets of the teeth, was at a very high pitch, the name "pyorrhea alveolaris" being then, as it is now, strongly attacked by many as inadequate and misleading. The etiology and pathology and the question whether it should be considered a local or a constitutional disease were also hotly discussed. Since then the methods of treatment have changed very little.

If, however, we knew all the causes and the actual tissues most involved in the repair we should better know how to treat the disease intelligently, and have a greater number of recoveries and those more complete. It is hoped the facts here to be presented may do something toward this desired end.

The wonderful recuperative powers of cementum have recently been brought to my attention with great force, and the result has been active research regarding this tissue. Such literature as I have been able to find about cementum and its relation to human teeth is confined to mere descriptions of its locality and histology but not of its necessities and uses.

Cementum is the bond of union between the teeth and bone, and seems much like bone in its recuperative and reparative powers. For one to know that under proper environment the cementum may and will reform, when it has been removed from a root or cut into grooves, should be a fact of much moment and value to those interested in the treatment of diseases of the sockets of the teeth and the surrounding tissues. The incident which encourages me to believe this to be true is as follows:

A year or more ago a young woman of 19 came to me for treatment. About four years previously she had lost the crown of the first lower molar on the right, by an attempt to have the tooth extracted. The crown had been broken at an angle quite below the neck so that the soft tissues, when they began to repair, lapped partially over the broken surface. On close examination the soft tissues were found to be adherent to the broken surface of dentin. This being very unusual, the roots were carefully extracted, the lump of soft tissue still adhering to the broken surface. The anterior root was decalcified,

* Read in the Section on Stomatology of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

with some of the soft tissue still adherent. Sections were made from the root and adherent tissue (Fig. 1). It was found that the cementum had not only grown over and become adherent to the broken surface of the dentin but had partly filled the canal of one root from the top down, something after the manner of the growth of secondary dentin induced by abrasion from mastication. The formative membrane was still adherent to these surfaces (Fig. 2). The cementum was very much thicker about the end of this root than is normal in teeth of this age (Fig. 3). This, no doubt, was due to the disturbance brought about by the attempt to extract the tooth. Nodules of cementum on the roots of the teeth are very common in older persons and are called exostoses, but to find cementum formed on and adherent to a broken surface of ivory of a human tooth, much as it is on the roots, is a new phenomenon in biology to me, and is of so much moment to those interested in the treatment of alveolitis that I have spent much time in investigating the subject.

The specimens examined seem to show that if environment is made perfect in treating deep-seated cases of alveolitis we may have a normal restoration of tissue to a great extent if not to a full amount. In the language of the general surgeon, we can expect to have a healthy useful stump if we cannot have a completed organ.

Fig. 1.—Section of anterior root of first molar (× 3) ; d, dentin; c, cementum growing on broken surface of dentin; p, c, pericementum; p, remnants of pulp chamber.

We all know numbers of cases in which teeth that, under treatment, have seemed hopelessly loose, in time have become firm and useful for many years; and I have wished many times that we might know just what the process of repair was. This one case of excessive growth and unusual attachment of the cementum to the broken surface of dentin teaches what this process of repair can be, and I am now convinced that it is the cementum on which we largely rely for the repair in these cases, it being the underlying factor of attachment. The specimens show excessive growth of cementum which must have been the result of some stimulating environment.

Cementum is of mesoblastic origin like dentin and bone; but bone seems to be one step too far away from dentin in physical character for perfect union between them to be possible, so that in the growth of teeth in vertebrate animals the cementum seems to have been a development by nature to supply the intermediate link as a bond of union between tooth and bone. Cementum is the natural product of the pericemental layer of the periosteum of the socket, and does not exist until the root of the tooth is formed. The presence of the dentin of the root in proximity to the periosteum seems to stimulate the layer of cells next to the dentin to bring into action that unknown law, the differentiation of cells, and cementum is the result. Thus it is seen that the periosteum of the socket is remarkable in that it forms bone on one side and cementum on the other, and at the same time acts as a cushion against the forces of mastication.

Since we know by the specimens that this membrane is capable of what seems unusual things, we can set our goal at having Nature reproduce much of the lost attachment in diseased sockets. The necessary conditions to produce this result would mean that we must have live tissue to live tissue as is done in setting a broken bone. Sterile blood-clot must fill the space between. To produce this condition the roots of the tooth must be surgically free from foreign matter. They can be cleaned by scraping and polishing, or, better, by planing the roots off with instruments like Thompkin's, Hartzells' or Carr's sets, which leave live tissue on the tooth side.

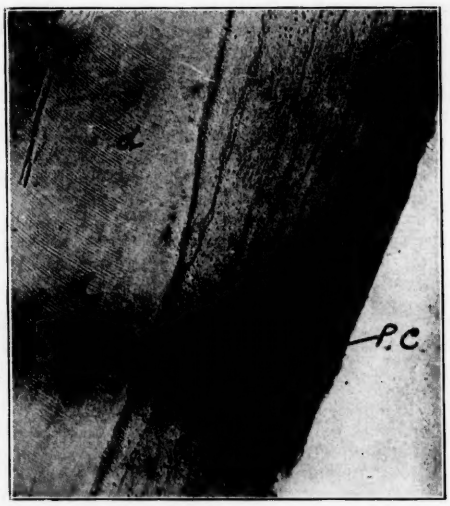


Fig. 2.—Normal cementum of the root (× 100) to compare with the cementum found on broken dentin and in root canal; d, dentin; c, cementum; p c, pericementum.

All dead or diseased bone or other tissue should next be removed from the socket; this leaves live bone tissue on the other side opposing the live cementum, and if the wound be kept sterile by gently washing away the disorganized blood-clot at proper times, what would seem perfect conditions for repair will be produced, the space not being large enough to demand anything like sponge-grafting.

This condition no doubt existed in the case of repair here presented, that is, a broken surface of live dentin on one side and healthy cementum-producing tissue on the other side in close proximity, so that it could grow over the broken surface of dentin with the results shown. The cementum-producing membrane may come from above or below in the socket or from both directions.

If pus is found forming again, as it often is, either more thorough curetting or escharotic germicides such as pure lactic acid or iodin should be resorted to, in order to have Nature throw the strongest possible army of repair into the neighborhood. She will renew the effort, as often as called on, by making frequent fresh wounds in the socket. The principle is the same as that

according to which setons were formerly drawn daily through a wound; but daily is too often in these cases. This treatment should fall short of destroying any repair which has already begun.

If the tissues are put and kept in normal condition for repair, as above described, healing will take place in due time, that is, in from two or four months, or in whatever length of time it would naturally take such wounds to heal—possibly a year or more in some cases. But the physician must know when the tissues are in proper condition for repair and how to produce them. It is understood that many patients do not come for treatment until they are beyond recovery.

It seems to me that at present we proceed in the treatment of alveolitis without any definite idea of what processes are called into play in the healing; but we go ahead and do something; if the patient recovers, well and good; if not, we do not know why nor do we know what we should do in order to have Nature do the repairing which she is always trying to do and always will do if the physician is bright enough to know how to remove the hindrance in her way. Thus encouraged, Nature will accomplish what may seem wonders, but what to her is mere fulfilment of her own laws.

The facts as displayed in this case of repair certainly show a definite and encouraging goal for which to work and this goal is, I believe, the proper one; that is, we may look forward to the activity and reproductive power of cementum to form a new bond of union, knowing that this union will occur if the environment is made right. In bone surgery, it is not thought that the periosteum reproduces itself by growing edgewise to any great extent, but, surgically speaking, the reformation of enough periosteum and pericementum to line the whole tooth socket would not be considered a large amount to be reproduced. In cases of amputation of the apex of roots it no doubt is due to the cementum which covers the freshly cut surface that makes it possible for the tissues to retain the tooth in health instead of expelling it. Where roots may have been fractured repair may take place by the crevice being filled with cementum just as broken bone is cemented together by the fracture being filled with new bone.

Often arteriosclerosis, auto-intoxications or other systemic disorders hinder the healing of these wounds in the same manner as they hinder the healing of wounds in other parts of the body. If these conditions exist, they should be looked after either by the operator or the family physician, since the condition of the blood and blood-vessels have much to do with the susceptibility of the patients to alveolitis and to other diseases, as well as with the tendency to repair or to remain chronically diseased. So the systemic conditions must be looked after as well as those that are local.

Many patients suffering from necrotic and suppurative alveolitis are reported to have recovered under systemic treatment, but always after the deposits have been removed from the roots. From my point of view such patients recover on the same principle that tuberculous and other patients recover, that is, through such improvement in the patient's health by means of medical or climatic assistance that the system is equipped with sufficient additional material and vigor to overbalance and finally overcome the disease.

11 East Seventh Street.

Fig. 3.—Top of Section 1 (× 75) showing cementum growing up over the side and onto broken dentin and into pulp canal: d, detin; c, cementum; p c, remnants of pericementum; p, remnants of pulp chamber.

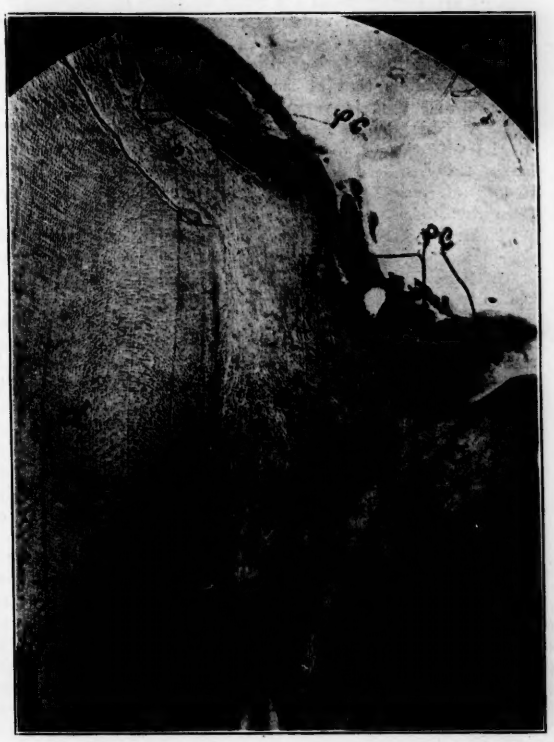


Fig. 4.—Higher magnification of Figure 3 (× 100), showing more plainly the character of tissue; d, dentin; c, cementum; p c, remnants of pericementum.

ABSTRACT OF DISCUSSION

DR. FREDERICK NOYES, Chicago: For a long time I have been trying to teach that cementum was the means of attaching the surrounding tissues to the tooth, and that normal cementum continues to be formed as long as the tooth remains in function. A tooth that has just erupted has a few layers of cementum over the root. One that has been in use for a long life has a great many. Further, I have been trying to convey the idea that the tooth is continually moving as long as it is in function, and with every movement the attachment of the fibers to its cementum is cut off and they are reattached by the formation of a new layer of cementum. I think Dr. Fletcher will agree with me that these things which are physiologic facts occurring in the formation of every tooth are of prime importance in the consideration of this specimen, and that they are the foundation of the treatment of the roots of teeth in alveolitis.

The problem, then, which is presented to the practitioner in the treatment, for instance, of a deep pocket on the labial surface of the lower incisor where the normal attachment has been removed, is that of bringing the tissues in physiologic contact, and that is very far from an easy thing to do. If physiologic conditions can be obtained, the reattachment of the soft tissues to the surface of the root is the only logical thing to be expected. I would like to ask Dr. Fletcher if any of those broken fragments of dentin showed any formation of cementum?

DR. H. M. FLETCHER: They are enclosed in cement, and yet in most of them you can see an attempt at absorption.

DR. NOYES: That question was suggested to me from the emphasis of Dr. Fletcher on its being living dentin. I am not so certain on that point. That is that the formation of cementum continues on the surface of the root from which pulp has been removed, and moreover, formation of cementum continues on fragments of diseased roots in which there is no living dentin. For instance, I saw a case a few days ago, in which a tooth which had lost almost all of its peri-dental membrane, had become turned over sideways and formation of new cementum along the new under surface had occurred. Any damage to the outer surface of the dentin is always repaired by the formation of a new layer of cementum.

No surgeon ever closes a wound; all he does is to control conditions so that the living tissues can close the wound, and the thing that has led to the development of modern surgery has been a knowledge of the conditions of life and an ability to control cell activity. The same way in this field. No dentist can ever reattach the tissues to the surface of the root, but if he knows enough about the vital conditions and can control them the tissues may be able to carry out their activities, and they may reattach themselves in their normal position.

DR. G. V. I. BROWN, Milwaukee, Wis.: The subject opens up vast possibilities in our treatment of pathologic conditions affecting the cementum and adjacent structures, which if these slides are as they seem, will make it possible to do a great deal more than has ever been attempted before. It is another example of the wonderful versatility that cells display in adapting themselves to adverse conditions which sometimes leads to the production of cells essentially different in their ultimate character from the condition of the original cell. It certainly is new to me to know that cementum would spread itself over a bare surface of dentin, whether living or dead, as this seems to have done. I would like to be a little more certain as to just how far the fibers of the pulp in that tooth had extended themselves, and have no doubt Dr. Fletcher will be able to tell us whether this would be the kind of thing which one could expect regularly from cementum under pathologic conditions, or whether it is merely the outgrowth of pericementum quite similar perhaps to that which we find where we have hypertrophic conditions and polypoid gum tissue, or if it is only an unusual case.

DR. T. W. BROPHY, Chicago: The essayist has brought two very important subjects for consideration; first, the importance of observing the correct nomenclature; and second, the wonderful reproductive powers of Nature. As to etiology, he has not entered into it. However, we have a local condition which is aggravated by lowered vitality of the patient. Anything which decreases the patient's vitality aggravates the disease in this locality the same as anywhere else. Therefore, proper treatment of patients from a systemic point of view should be considered. The work of Nature in depositing cement on this pericementum has been pointed out by the essayist in a manner that explains many of the conditions that we find associated with the teeth that have never been heretofore pointed out. If so, it has escaped my attention. What the essayist has presented here will be very interesting material for the men working along these lines of pathology and histology.

If the pathologic condition has advanced to a point that has left the tooth denuded of pericementum—if there has been considerable destruction of the surrounding bone—though the tooth may be an irritant to the tissues about, in such a case I think the tooth is gone. The essayist has not told us that Nature could reproduce the alveolar process. I have never heard anyone say that could be done. I do not believe it can be done. The greatest mistakes made in treating alveolitis have been in the failure to make diagnoses—to determine to what extent the parts are lost. If the only support of the tooth is gone, the tooth is lost, notwithstanding the fact that it may still be present and adherent to the membranes. It seems to me that where there is doubt, every practitioner should have a skiagraph made in order to be of the greatest service to his patient.

DR. EUGENE S. TALBOT, Chicago: This specimen certainly has brought out some beautiful things which will give us material for future study. As to the application of this condition to repair of the alveolar process, etc., I can hardly agree with Dr. Fletcher. There are two fixed conditions, foundation principles, we cannot get around; one, that the alveolar process is only a temporary structure to hold the teeth in place, and as the persons grow older, the process is absorbed; second, that the alveolar process is an end-organ. These two points must always be considered.

In the first place the patient must have been about 17 or 18 years of age. The chances are that such a condition would not be found in an individual who had obtained his growth. After the process has built itself around the tooth, it is simply waiting for an irritation to tear down the alveolar process. This is only a matter of time. If a man live long enough and keep his excretory organs in good condition, the alveolar process, without disease, will gradually absorb, and he will lose his teeth naturally. As I tried to show yesterday, and as Dr. Noyes brought out very beautifully in his pictures, when the matrix is destroyed—the lathing—the fibrous tissue within the alveolar process of the bone cannot possibly be restored under any circumstances. It is only partially restored in other bones of the body needed for the future support of the individual; so that his analogy, to my mind, will not hold good.

DR. FREDERICK NOYES, Chicago: There are two points clearly shown in the microsopic specimens that are particularly important. The first is that the broken surface across the end of this root shows first an absorption in the dentin, and then the laying of the cementum on it. In other words, the tissues came into physiologic contact with that dentin, first to absorb it, and then the absorbing cells were replaced by building cells, and the tissue was attached to it. I believe this is important. Second, it is evident that the pulp chamber has been largely obliterated by the formation of dentin by the remains of living pulp in the broken root, and in a hurried examination it is impossible in all places to find the junction between the cementum and that secondarily formed dentin; but I think it is a little misleading to assume that all of that tissue down in the pulp chamber is cementum. It is not. It is at least largely secondary dentin, and the cementum has overlapped on to that at the mouth, but I think it does not cover it entirely, though I would not be positive. In the treatment of these conditions, I believe that the tissues will first lie in contact with that denuded root for the purpose of absorption, and then the absorbing cells

will be replaced and forming cells produced. This is an exceedingly important factor.

DR. WILLIAM C. FISHER, New York: Does Dr. Fletcher mean to convey the idea from this specimen that he hopes to build by stimulation the cementum body, filling in such spaces as may have been produced by the waste product of alveolitis? And if so, to what point he thinks this can be controlled? In other words, is this a sort of artificial exostosis that he would stimulate?

DR. M. H. FLETCHER, Cincinnati: Dr. Noyes' description of what he saw in the specimens indicates the necessity of putting it properly before you. The only way this can be done is to have you study the specimens through the microscope. If Dr. Noyes had time to look through all the specimens, he would find a few that are perfect, where there is no breaking away of the cementum from the dentin in the process of mounting. The law of repair would make me believe, after all our scraping and polishing of roots, that Nature still puts the root surface in proper condition for reattachment of the bone.

In answer to Dr. Fisher, I think what the cementum does is to reproduce itself on the surface of the root, preparing a surface to which bone may be attached through the periosteum; to what extent I do not think we know. Theoretically, I should say it will cover any place on the root that is in normal contact with healthy periosteum, thus we can at least have what is left in a healthy condition.

In answering Dr. Talbot I would say that it is a well-known fact that an organ which is not continually and normally used is changed to a useful form or position or it disappears, but the alveolar process is constantly in use so long as the teeth are present. I have seen mouths of elderly persons in which there was comparatively no recession of the gums, except where disease from local irritants existed. I do not believe in the idea that the alveolar process is a temporary or transitory organ. It disappears if the teeth are removed, but it will remain so long as the teeth remain without local disease. The permanency of this bone is shown in animals where the teeth are of persistent growth. In the tusks of elephants, the incisors of rodents and all animals that have teeth of persistent growth, the alveolar process, the periosteum and the peri-dental membrane are in perfect health so long as life lasts. I have examined the mouths of many animals, and if I understand the doctor correctly, I do not agree with him that the alveolar process is transitory or weakened excepting by disease. If the gums and bone about the teeth are kept healthy I believe the alveolar process is as permanent as the turbinates or other thin bones connected with the air passages.

Regarding the cementum, it is a law of the construction and attachment of teeth of vertebrates that it exists on the root. I do not believe we as practitioners have attached the importance to his fact that it demands. Such men as John Hunter, Richard Owen and Purkinje are the ones who gave us the best knowledge we have of this tissue, but they were not dentists and could not realize the importance it is to us to-day in the treatment of the diseases of the tooth sockets. We should know more about this tissue and call it into use in our work from the present on. Nature utilizes cementum between plates of enamel for constructing perfect grinders in many animals. The cementum wearing away faster than enamel leaves indentations which form perfect millstones for grinding the rough foods which would not otherwise be digestible.

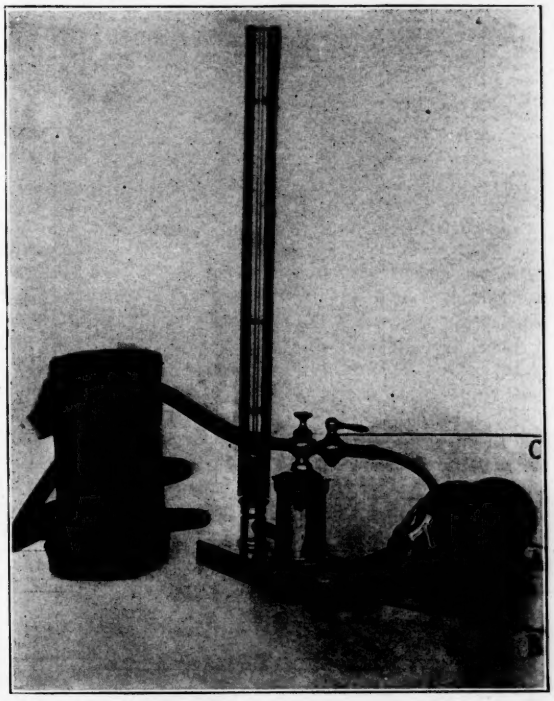
Nasal Chancres.—Chancres of the nostrils and nasal fossæ are rare. Contagion may be direct or indirect. The chancre may be erosive, hypertrophic or ulcerative; the latter form may be mistaken for eczema or impetigo. Rolleston reported an interesting case of nasal chancre which was mistaken for nasal diphtheria, and sent to a fever hospital. In this case the chancre was covered by a diphtheroid membranous deposit; the submaxillary and sternomastoid glands were enlarged and there was an eruption of secondary syphilis on the body which had escaped notice.—C. F. Marshall, in the *Practitioner*.

A SUGGESTION IN THE USE OF THE STANTON SPHYGMOMANOMETER

EDWARD H. GOODMAN, M.D.
PHILADELPHIA

Those who use the Stanton sphygmomanometer a great deal will have experienced the necessity of frequent renewals of the rubber bulb used to inflate the cuff. When employing the instrument, the bulb remains distended throughout the entire blood-pressure determination, and if the pressure be high, the tension is extremely great. It has been my experience, and this is probably the experience of many, to find that the bulb usually lasts but a short time and must be replaced frequently.

To overcome this protracted distention I have devised a simple arrangement whereby the air may be let out of the bulb without affecting the pressure in the cuff. As shown in the illustration, the rubber tube leading to the



Suggested improvement in blood-pressure apparatus to avoid continuous pressure on the rubber bulb while taking the reading. A Y tube, *A*, is inserted in the rubber tubing with a short rubber tube closed by a pinch-cock, *B*, on one leg of the Y. After the cuff is inflated the cock, *C*, is closed and the pinch-cock, *B*, opened, releasing the pressure on the bulb.

mercury chamber is cut and a Y-shaped tube (*A*) is interposed. To the third arm of the tube is attached a piece of rubber tubing furnished with a pinch-cock (*B*). When a blood-pressure reading is to be made the cuff is inflated in the usual way, the cock (*C*) turned and the pinch-cock (*B*) opened, allowing the air to escape from the bulb, but in no way affecting the pressure in the arm band.

I am aware that many practitioners prefer to use a Politzer bulb, or an ordinary atomizer bulb with the Stanton instrument, and when this is practiced there is no necessity for the Y-tube. In our work we employ the double bulb, and we have found that this slight but useful modification complicates in nowise the technic

and is of distinct advantage in preserving the usefulness of the former.

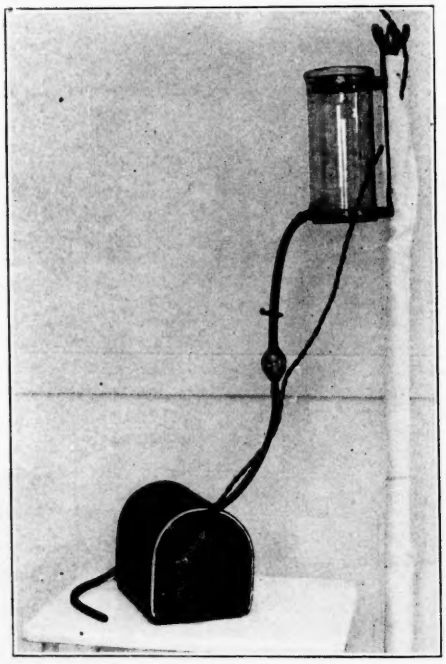
I am uncertain as to whether such a modification has been suggested before, but inquiry of the manufacturers failed to reveal any record of this. If such a modification has been described, however, it is worthy of wider use than is apparently the case at present.

248 South Twenty-First Street.

APPARATUS FOR PROCTOCLYSIS

MAURICE DUANE BIRD, M.D.
MARINETTE, WIS.

The new appliance for heating salt solution for proctoclysis shown in the accompanying illustration, consists of a galvanized iron box covered with asbestos and sole leather, 9 inches long, 6 inches wide, 6 inches at greatest height, being dome-shaped, one end closed, the other open, with an opening ¾-inch in diameter at top of closed



New apparatus for proctoclysis

end, and a loop ¾-inch in diameter at top of open end, allowing a ½-inch tube to be passed without trouble; an electric lamp socket is fixed on the inside of the closed end and fitted with a 4-candle-power lamp, 12 feet of silk-covered copper wire with plug for attachment to electric light fixture, attached to lamp through the closed end.

The advantages of the appliance are the following: It is simple, efficient, and durable. It will not get out of order, keeps a constant temperature and will not burn the patient, or soil or moisten the linen. If a 16-candle-power lamp is used, the bed will be warmed also when the apparatus is used for shock. The patient cannot be injured in changing position or by lying on the appliance. It reduces the labor and attention required of the nurse. The appliance slides on the terminal portion of tube, there being no fixed segment; therefore the reservoir can be placed any distance from patient without removing end portion of tube, which should be 16 inches in the bowel.

NEW REFLEX SIGNS IN MENINGITIS DIAGNOSIS

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Professor of Pediatrics, New York University and Bellevue Hospital Medical College; Attending Physician, Presbyterian Hospital
NEW YORK

Brudzinski's "new sign" in meningitis is probably one of the best signs in the diagnosis of this disease, although it does not differentiate between the various forms. It consists of reflex actions manifested in what are called the neck-sign and the leg-sign. It comprises two reflex phenomena, the identical reflex *(réflexe identique)* and the contralateral reflex *(réflexe contralatérale)*.

Fig. 1.—Patient with septic meningitis, subsequently fatal; relaxed; comatose.

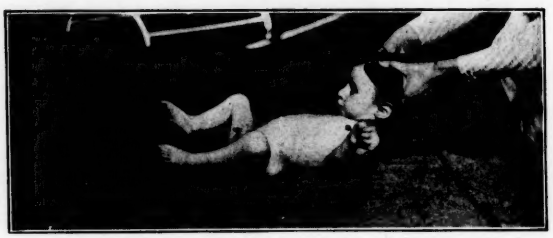

Fig. 2.

Fig. 3.

Figs. 2 and 3.—Method of eliciting the identical reflex or neck-sign, by flexing head on chest.

The identical reflex is elicited by forcibly flexing the head on the chest, when the arms and legs regularly assume the positions shown in Figures 2 and 3.

The contralateral reflex is produced by passive flexion of one leg, which causes the fellow limb to draw up and remain in the position shown in Figure 4.

Of the two signs the neck-sign is the more constant and is really a refinement of the ordinary "stiff-neck," "rigidity," etc., mentioned in the descriptions of the physical signs in meningitis.

Brudzinski[1] in forty-two cases of meningitis, found the neck-signs *(réflexe identique)* positive in 97 per

1. Brudzinski: Arch. de méd. d. enf., 1909, xii, 745.

cent.; the leg-sign *(réflexe contralatérale)* in 66 per cent.; Kernig's sign in 57 per cent, and the Babinski sign in 50 per cent.

Morse[2] examined 400 children, "well, or ill with diseases other than meningitis," and his conclusions are that "neither the neck-signs nor the contralateral reflex are present in well children or in those ill with diseases

Fig. 4.—Producing contralateral reflex or leg-sign by passive flexion of one leg, causing a reflex flexion of the other leg.

other than diseases of the nervous system; and that they are very seldom met in diseases of the nervous system, outside of meningitis." "Their presence is strong evidence in favor of meningitis: their absence does not rule out meningitis."

57 East Seventy-Ninth Street.

AN APPARATUS FOR THE PREPARATION OF BACTERIAL SUSPENSIONS *

CLOUGH TURRILL BURNETT, M.D.
BOULDER, COLO.

Anyone who has prepared autogenous vaccines has no doubt found the shaking up of the suspension by hand,

as recommended by Wright, a tedious process. There are several mechanical agitators for the emulsification of large quantities of fluid, but I have been unable to find anything well adapted to the preparation of bacterial suspensions as used in vaccine work. In several instances mechanics have made on special order devices for this purpose, but these have been produced at a considerable expense. The device described was made under the direction of Professor Hunter of the College of Engineering, and is reported because of its slight expense and its simplicity.

A second-hand sewing-machine was bought for fifty cents. Much of the machinery was removed, being unnecessary, leaving the wheel and the needle-bar. On the top of the needle-bar was attached a bronze cylinder ⅞ by 5½ in. as shown in the illustration at A. In this cylinder is placed the sealed glass capsule containing the bacteria in salt solution. The capsule is protected by cotton and held down by a rubber stopper. As the needle-bar oscillates rapidly up and down it carries with it the cylinder and capsule contained in the cylinder. This rapid vertical motion will very quickly break up any clump of germs, producing a uniform suspension in five to ten minutes. This agitator may be propelled by water or by an electric motor. I obtained a water motor for one dollar and fifty cents which furnishes as great a speed as is necessary. The work required on the machine would not cost two dollars, making the entire cost with the motor about four dollars.

2. Morse, John Lovett: Arch. Pediat., xxvii, 561.

* From the Laboratory of Bacteriology, University of Colorado.

THE TREATMENT OF PUERPERAL ECLAMPSIA

FREDRIC J. PLONDKE, B.S., M.D.
Surgeon to St. Joseph's, and Gynecologist to City and County Hospital
ST. PAUL, MINN.

Of all the diseases or pathologic conditions confronting the medical profession, perhaps none has received so much attention as puerperal eclampsia. We learn from early literature that the most competent investigators of all ages have searched for the cause, and equally competent therapeutists have endeavored to apply successful treatment. While these labors have resulted in a measure of success, it must be admitted that even in this enlightened age of medical research we have been unable to determine the exact etiology; and the fact that the most recent statistics still estimate the maternal mortality at from 25 to 35 per cent., and the fetal at 40 to 60 per cent., would indicate that the treatment has been as unsatisfactory as the attempt to find out the cause.

Pathologists are almost unanimous in their belief that the convulsions and concurrent symptoms of puerperal eclampsia are the result of irritation of the liver and kidney cells, and of the cerebral centers, by toxins circulating in and distributed by the blood-current. Taking this for granted, it would seem that treatment based on such a theory, having for its purpose rapid elimination of a part of the toxins, and the neutralization, by dilution or otherwise, of those which remain, would more nearly meet the indications than the slow and uncertain methods heretofore employed.

COMBINED VENESECTION AND INFUSION

With the hope of accomplishing this purpose I have combined the very oldest method, that of venesection, with the comparatively new intravenous infusion of normal salt solution, as follows:

Technic.—Any prominent superficial vein, preferably the median basilic on the anterior surface of the elbow, is selected. Constriction is made above by applying a bandage just tight enough to cause congestion sufficient to make the vein prominent. The parts are carefully cleansed and under local or general anesthesia an incision from 1 to 1½ inches

in length is made over the long axis of the vein, which is exposed by carefully dissecting it loose from the contiguous tissue. A double ligature of No. 1 or single 0 catgut is then carried under the vein by an aneurysm needle, tissue forceps or other suitable instrument (Fig. 1, *a*) the loop divided (Fig. 1, *b*) and the two ligatures tied around the vein with a single knot at either end of the incision, from ½ to ¾ inches apart (Fig. 2, *a*, *a*). The external surface of the vein is then grasped with a small rat-toothed tissue forceps midway between the two ligatures (Fig. 2, *b*) and divided at this point (Fig. 2, *c*) transversely upward (or downward as desired) about half-way through its circumference. The end of a thin-walled glass cannula, with the largest diameter that will be admitted, is then inserted downward into the distal end of the opening in the vein (Fig. 3, *a*); traction is then

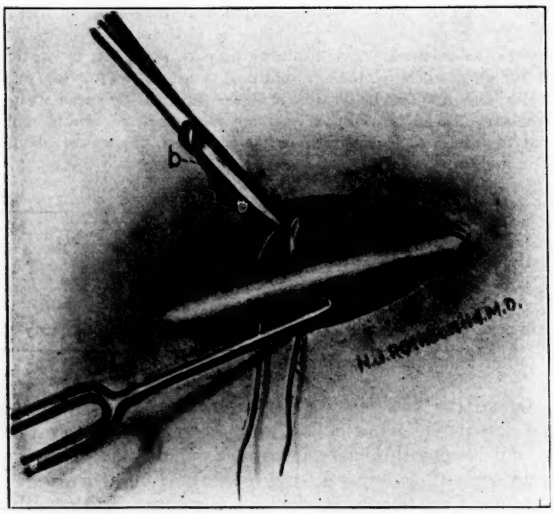

Fig. 1.—Dissection of vein and preparation for venesection; (*a*), ligature and carrier; (*b*), division of loop, forming two ligatures.

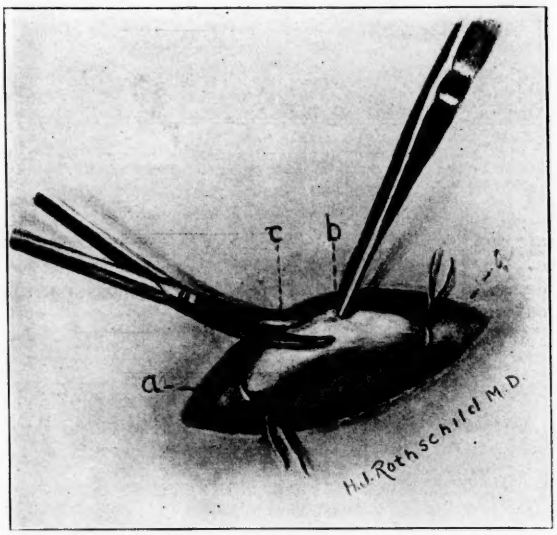

Fig. 2.—Vein with ligatures tied at *a*, ¾ inch apart; at *b*, rat-tooth forceps holding vein; at *c*, diagonal partial section of vein.

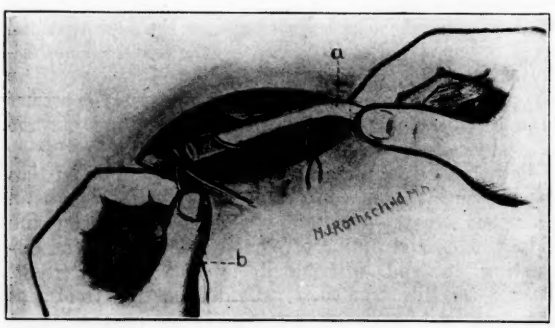

Fig. 3.—Insertion of glass tube in distal portion of cut vein at *a*; at *b*, loosening ligature to permit of insertion of tube.

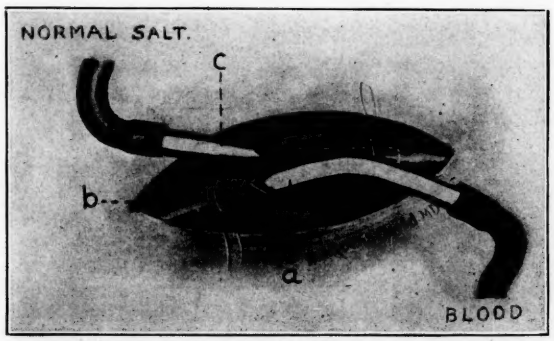

Fig. 4.—Tube (*a*) in distal portion of cut vein, for escape of blood, held by ligature (*b*); *c*, tube in proximal end of vein conveying saline solution.

made on one end of the ligature (Fig. 3, *b*), when the single knot readily loosens, allowing the cannula to pass through the loop (Fig. 4, *a*); the ligature is again tied, this time around the vein containing the end of the cannula (Fig. 4, *b*) (it is important that the lumen of the cannula is not too small, otherwise the blood will coagulate and refuse to flow); the constriction is then removed and another cannula which may be of smaller diameter, attached to a rubber tube coming from a receptacle containing a normal salt solution, is inserted (with the solution slowly escaping from the tube) upward into the other (proximal) end of the opening in the vein (Fig. 4, *c*) in exactly the same manner in which the first tube was introduced. When the desired amount of blood has escaped and a sufficient quantity of salt solution introduced

the tubes are carefully withdrawn while the assistant securely tightens the knot, obliterating the vein. The skin wound may be closed by any suture desired.

In emergencies, a fountain syringe, with the glass tube of an ordinary medicine dropper, or in the absence of the latter the cannula from a small oil-can (such as is found with every sewing-machine, automobile or other machinery), may be used to convey the salt solution into the vein. If catgut is not at hand spool linen or other thread will answer for ligature. The salt solution is prepared by adding a heaping teaspoonful of common table-salt to one quart of water. The blood is allowed to escape from the vein by simply loosening the distal ligature as above described; the disadvantage being that without the aid of the cannula the blood obscures the field of operation, and it cannot be accurately measured. When the condition of the patient warrants, it is advisable to allow from 10 to 15 ounces of blood to escape before the introduction of salt solution is begun. The amount of blood withdrawn in my cases ranged from 15 to 32 ounces; the quantity of salt solution introduced varied from 1 to 2 quarts; average, about 40 ounces.

Nothing new is claimed for this operation, other than the combination of the two methods, viz, the withdrawing of the blood and introduction of salt solution through the same opening at the same time, thus literally washing out the vascular system. It seems reasonable to assume that by the withdrawal of a portion of the

surcharged blood the system is relieved of a considerable part of the toxins, and by dilution with salt solution the poison in the remaining blood is rendered at least temporarily less irritating.

I have used this treatment in ten cases, seven puerperal, two of convulsions in chronic nephritis and one of subacute nephritis, with the result that in each case the convulsions ceased at once and in no case did they reappear. The following will serve as examples:

CASE 1.—Mrs. M., aged 23, primipara, weight about 120 pounds, had a perfectly normal labor of about 4 hours' duration; 1 hour after the child was born the nurse noticed a slight spasm of the muscles of the face; this was followed in a few minutes by a severe convulsion lasting about 2 minutes; this was again followed by another in about 10 minutes; the convulsions increased in severity, becoming more prolonged and appeared at shorter intervals until I saw her about 1½ hours later, when she was in a tonic spasm. She was given ¼ gr. morphin hypodermatically and taken to Bethesda Hospital 3 blocks away and immediately placed on the operating table; by this time the pulse was 150 and very weak. The convulsions were so severe that it was almost impossible to hold the patient on the table until chloroform could be administered. The median basilic vein was opened and 12 ounces of blood withdrawn, when the introduction of salt solution was begun and 10 ounces more of blood allowed to escape. The patient revived from the anesthetic in about 30 minutes, and except for a slight twitching of the facial muscles there was no further signs of convulsions. She left the hospital on the tenth day in as good condition as would be expected to follow an uncomplicated confinement.

CASE 2.—Mrs. S., aged 26, primipara, weight 130 pounds, a patient of Dr. A. W. Miller, was sent to my office with a note that she was 8 months pregnant, very anemic, with feet and legs swollen, large quantities of albumin in the urine, etc. On examination the above was confirmed and in addition a large number of granular, hyaline and ephithelial casts were found. The patient was sent to the home of friends with instructions to keep quiet in bed, confine herself to a milk diet, etc. At 3 o'clock the following morning labor began. She was sent to St. Luke's Hospital, where a healthy child was born about 5 hours later after an easy labor, an intern attending. About 5 hours after the delivery she was seized suddenly, without warning, with a terrific convulsion lasting about 6 minutes. I arrived at the hospital about 1 hour after the first attack; during this time the patient had had about five or six convulsions, and appeared absolutely lifeless during the intervals; the pulse was very rapid and almost imperceptible at the wrist. She was taken to the operating room and given chloroform enough to control the convulsion, the median basilic vein was opened, and on account of her serious condition the cannula conveying the salt solution was inserted first and the infusion begun before any blood was allowed to escape. Then about 28 ounces of blood was allowed to flow away without any attempt to insert the larger cannula; about 1½ quarts of salt solution was given; in 10 minutes the pulse was very much improved, being slower and of better volume. The patient was returned to her room, where she regained consciousness in about 3 hours, with no further sign of convulsions. She left the hospital at the end of 2 weeks, and 2 weeks later left for her home in South Dakota in as good health as before the confinement.

CASE 3.—Mrs. D., aged 22, weight about 120 pounds, primipara, 7 months pregnant, had been in good health up to Dec. 3, 1909, when a dull headache, which had been present for a week, suddenly developed into an agonizing pain, with blurred vision, intense restlessness, etc. Dr. R. J. Brady of Hastings was called and found the urine almost solid with albumin. He ordered hot packs, saline cathartics, rest, milk diet, etc., which apparently gave slight relief until December 9 at 3 a. m., when he was again called and found the patient in a severe convulsion, it being the fourth she had had in an hour. She was entirely blind, very restless and suffered intensely from headache. She was given ¼ gr. morphin, which was repeated in an hour with practically no relief. As the convulsions increased in severity and her general condition became alarming she was brought to the city by train and taken to St. Joseph's Hospital, where I saw her with Dr. Brady about 3 p. m. She had had about fifty convulsions up to this time and continued to have them every few minutes. She was irrational and intensely restless during the intervals. The whole body was badly swollen, the face almost beyond recognition; pulse was 140 and weak; no sign of fetal life could be detected, but on account of an urgent request from the husband that every effort be made to save the life of the child we abandoned our first intention, that of rapid dilatation or vaginal Cesarean section, and under chloroform anesthesia opened the basilic vein, inserted a cannula, through which about 15 ounces of blood was allowed to escape; another cannula was then inserted as above described and 2 quarts of salt solution introduced; after the infusion of salt solution was begun 17 ounces more of blood was withdrawn, making 32 ounces in all. The patient was returned to her room, where 4 hours later she was semi-conscious and was able to count fingers 2 feet away. The next morning she was perfectly rational and able to recognize her husband at the bedside. She improved steadily, with no further sign of convulsions and left the hospital on the tenth day, remaining in good condition until one month later, when she returned and gave birth to a dead child, which, from its appearance, had been dead for about one month.

No other treatment was employed in these cases except a dose of salts every morning, and a hot vapor bath once daily for a week as a matter of precaution.

The same treatment was employed in the other seven cases, varying only in the amount of blood withdrawn and the quantity of salt solution introduced. In this we were always guided by the condition of the pulse, having an assistant watch it very carefully, while the blood was escaping and, at the first sign of weakness, the infusion of salt solution was begun, with an invariable improvement within a few minutes. It was interesting to note that in each case within 30 seconds from the time that the salt solution was allowed to enter the vein there was a decided change in the blood to a lighter color, indicating dilution.

While I confidently believe this treatment, when properly applied, to be the most successful of any yet employed, it is not intended that it should take the place of, or be used exclusive of all other methods; in many cases, perhaps the majority, in which convulsions appear after seven months, and positively in all cases after eight months, in which other means do not relieve promptly, vaginal Cesarean section, manual or instrumental dilatation, with rapid delivery, should be practiced. I am of the opinion, however, that if the venesection-infusion method is employed first, Nature, with a little assistance in the way of hot packs, hydragogue cathartics, milk diet, rest, etc., will, in most cases, do the rest. At any rate no harm will result, and unless an unnecessary amount of blood is withdrawn the patient will be in better condition to withstand the shock of the more radical procedure, should that become necessary.

In the foregoing an attempt has been made to present a treatment based on rational principles, the advantages of which may possibly be emphasized by a brief comparison with some of the other methods.

As above stated, in cases in which rapid dilatation or vaginal Cesarean section is indicated, i. e., if the woman is at that period of gestation when under more normal conditions the child would be expected to survive, the treatment is not a substitute but an adjunct. Thus, if for any reason, as lack of an assistant or the necessary instruments, etc., delivery must be delayed, this treatment can be employed, not alone with the hope of bene-

fit during the temporary delay, but with reasonable assurance that the patient will, as the result of its use, be the better able to undergo the graver operation. Again, it may be done by an assistant at the same time that delivery is being made, and by thus ridding the system of toxins hasten the convalescence and obviate the danger of a continuance of the convulsions after delivery.

Veratrum viride, without doubt the most reliable of all remedies in the so-called expectant treatment, is supposed to act by powerfully depressing the circulation, and thereby bleeding the woman into her own vessels; it is also supposed to reduce the spasm of the renal vessels, causing an increased flow of urine and encouraging perspiration by relieving spasm of the capillaries.

If this theory is correct, the effects are, to an extent, exactly what we hope to obtain by the venesection-infusion method, with the difference that by the latter, instead of the patient being bled into her own vessels and retaining the cause of the trouble within the system, the poisoned blood is withdrawn and replaced with salt solution, thereby promoting diuresis, diaphoresis, etc., and what is most important, in many of these cases, stimulation of the heart and vasomotor centers, which is directly the opposite to the ultimate effect of veratrum viride. It is also worthy of note that while veratrum viride is supposed to control the convulsion by depressing the circulation, the venesection-infusion treatment, although temporarily reducing arterial pressure, finally stimulates the circulation and raises blood-pressure; yet, as demonstrated by my cases, the convulsions cease.

Hot baths, for the purpose of encouraging perspiration, used as a preventive before the convulsions appear, and to guard against recurrence after they have ceased, are unquestionably a valuable aid to other means, but for direct relief of the convulsions they are obviously too slow. It may even be seriously questioned whether by rapidly drawing large quantities of liquid from the blood by a process approaching filtration, an abnormal proportion of the more insoluble products (possibly toxins) are not left behind; thus instead of the toxins being eliminated they become more concentrated, consequently more irritating. The indications for, and the effect of, hydragogue cathartics are practically the same as those of hot baths and these cathartics can be advantageously used at the same time.

Considering the cause, as we understand it to-day, morphin is theoretically contra-indicated in all cases of puerperal eclampsia, for the reason that it inhibits both secretion and excretion, thus locking up the toxins in the system, and when used in doses large enough to control the convulsions undoubtedly endangers the life of both mother and child by prolonging the post-eclamptic coma. In emergencies, when other means are not at hand, its use is justifiable.

Chloroform, the most generally useful of all means at our disposal for the treatment of puerperal eclampsia, should be used to control the convulsions while waiting for the less active remedies to take effect, and for anesthesia when the more radical means are employed; but as recent investigations have shown that its prolonged use causes acute degeneration of the liver and kidney cells, it is advisable, on account of the already crippled condition of these organs, to substitute ether when it is necessary to continue the administration for a considerable time.

490 Endicott Arcade.

THE SITUATION AS REGARDS SALVARSAN (606)

WILLIAM ALLEN PUSEY, M.D.
CHICAGO

Indications at present are very strong that we are on the verge of a period of indiscriminate and reckless use of Ehrlich's new remedy, 606, or salvarsan, as it is known commercially, that will result in disappointment in that valuable remedy and—what is more important—in damage to many syphilitic patients, chiefly, let us hope, from neglect of established measures of treatment. Indeed, it will be very fortunate if we do not have another therapeutic fiasco, like that following the announcement of Koch's tuberculin, in which a valuable remedy failed to come up to first expectations, and thereby caused disappointment from which it did not recover for ten years. For in the excitement over 606 we are apparently remembering only that it was introduced to cure syphilis, and are therefore assuming that it will cure it, and are not taking heed of the fact that experience already is showing that it is not doing it. Undoubtedly the basis of the sensational interest in 606—the sole basis in the popular, if not in the professional, mind—is the belief that the new remedy is a cure for syphilis; that it will completely destroy the infection and leave the patient free from the disease; that the person who gets syphilis will be cured "at one shot"—to adopt an expression concerning 606 now in the vernacular; and that the disease will be robbed of its seriousness. Take, for example, the following statement[1]—not from the daily press, but from one of the soberest of scientific journals: "One of the greatest scourges of humanity—perhaps the most insidious and cruel of all, since it so often places its victims beyond the pale of human sympathy, to be loathed rather than pitied—is on the point of being eradicated." The patient is to be cured of syphilis by one injection, or mayhap two or three, and the treatment is so efficient that syphilis is possibly "on the point of being eradicated."

And this conception of the possibilities of the agent are in accordance with the purpose for which 606 was introduced. To cure syphilis was Ehrlich's noble aim. The new drug was to be a *therapia sterilisans magna*—to destroy by one massive dose of a "parasitotropic" remedy all of the infecting organisms in a syphilitic patient.

In the light of even the brief present experience with 606, it may be said with confidence that the agent has failed in this magnificent aim. It is not a *therapia sterilisans magna;* it does not destroy the infection; and it does not rid the syphilitic patient of his syphilis. This is not saying that the drug is not a useful remedy; there seems every reason to believe that it is a valuable addition to our means of combating syphilis.

Ehrlich's hopes for 606 were based on animal experiments. Ehrlich recognized, as do others, that experiments on syphilized animals with the agent were not conclusive for man, and he turned over the remedy to clinicians for trial in human syphilis. And it is with the results in human syphilis that we have to do.

The belief that salvarsan cures syphilis in man depends on the following considerations:

1. Schweitzer, H.: Ehrlich's Chemotherapy, Science, Dec. 9, 1910, p. 809.

1. The destruction of the spirochetes.
2. The reversal of the Wassermann reaction.
3. The removal of the clinical manifestations of syphilis.

The evidence is becoming increasingly strong that the agent does not permanently and completely cause any of these results.

It has a very striking effect on spirochetes, but the sudden disappearance of spirochetes from lesions is no evidence of an overwhelming attack upon the disease. The drug may cause the disappearance of spirochetes from a chancre within twenty-four hours and greatly reduce the number, or cause their disappearance from deeper lesions—but mercury may do the same thing. A little calomel powder dusted on a chancre will within twenty-four hours make it exceedingly difficult or impossible to demonstrate spirochetes; and as soon as a syphilitic patient is brought thoroughly under the influence of mercury the difficulty of demonstrating spirochetes is enormously increased. And yet under such conditions, who attaches any weight to these findings as an evidence of the cure of syphilis? If one were to take any warning from the accumulated experience of generations in syphilis, it would lead him to expect that the apparent disappearance of the spirochetes was but a lull in the invasion and that they would return. And that is exactly what is coming to light. Disappearing spirochetes are returning, it may be, even at the site of the original lesion, where their disappearance has been regarded as of such significant importance.

The Wassermann reaction is very much more reliable evidence of the effect on the disease, for its findings cover the patient's whole organism. Present experience indicates that a reversal to negative occurs in a minor proportion of cases; but if it were made negative in all cases, only time—and much more time than the few weeks after treatment of most of the reports—would show that this negative reaction meant cure. The Wassermann reaction can be made negative by vigorous mercurial treatment—not so readily, however, as by 606—but no conservative syphilographer regards this as evidence of cure. On the contrary, experience with mercury shows that a return to positive is to be expected, and that treatment must be persisted in after the manner that we have learned from clinical experience. As a matter of fact, we do not yet know how to interpret the reversal of the Wassermann reaction in its bearing on treatment. The same return to positive of cases which have become negative under salvarsan is occurring in the same way as after the use of mercury.

But, after all, the most important evidence as to the value of 606 is the effect on the clinical manifestations of syphilis; and here experience indicates great variability. These variations extend from cases which are "refractory" to the drug, and show no effect, to cases in which strikingly good results are seen. As a rule, there is in active early syphilis—the stage at which most would be expected from a remedy that cured—distinct and positive improvement. Sometimes the symptoms entirely disappear—as happens from mercury or even without treatment—but that, even in these cases, no cure is obtained, is shown by the definite tendency to recurrence that the later literature is revealing.

In fact, accumulating experience simply shows that the remedy has as a rule a distinctly beneficial effect on the lesions of syphilis, but not so positive or beneficial an effect as would give any ground for the hope that it will cure the disease by the radical destruction of the invading spirochetes. How definite and constant these effects will be, or whether the action of the drug will be as reliable as that of mercury, cannot with our present experience be determined. But it can at least—and unfortunately—be said from present experience that the effects on symptoms are such as to show that salvarsan falls short of cure of the disease.

How useful 606 will prove is another question. The burden of reports is that it shows marked effects in intractable and destructive lesions. In the usual cases of active early syphilis it is very much to be doubted if it is of more value than mercury. In late lesions—lesions of the tertiary period—particularly in those which have been intractable to other treatment, the most striking results have occurred. In the cases of active secondary syphilis of the ordinary types that I have seen treated with salvarsan the effects have certainly not been more rapid or better than would be expected from mercury—not, I believe, so good. In three or four cases with very extensive ulcerative lesions the effects have been remarkably good. Various syphilographers are calling attention to the fact that men are losing sight of the results obtained from mercury, and that the new agent does not show results to indicate any probability of its superseding or being superior to mercury in the treatment of syphilis; that, so far as we can judge from present experience, mercury must still be our reliance, but that as a reserve we have a valuable agent in 606.

Of the dangers of salvarsan we are least able to speak at present. We do not fully know them. The evidence is large that immediate risk of serious accidents from the remedy are small. But enough is known to show that dangers exist. There is good ground for the belief that a larger proportion of serious accidents are occurring than would be estimated from the present literature. And that serious accidents should occur is not surprising. Salvarsan is the lineal successor of atoxyl, soamin, and arsacetin. All of these were introduced as safe arsenical preparations—atoxyl, so safe that its atoxic character was "blown" as it were in its name—and all have a train of arsenical fatalities and optic atrophies in the wake of their use in therapeutic doses. Salvarsan has about 35 per cent. arsenic content; it is administered in an average dose of half a gram—8 grains—that is, a dose of 2.8 grains of arsenic. There is no doubt that such a dose of arsenic has in it immediate possibilities of optic atrophies and other dangers. The dangers of its use, however, are as nothing in the face of a severe syphilitic crisis, or if the remedy were able to cure syphilis.

There is great diversity of opinion about technic of efficient administration, with much striving for a new technic that will be more effective. Injections in neutral emulsion, in alkaline solution, or mixed with oil, into the subcutaneous tissue, into the muscles, or into the veins, or combinations of these various methods of administration are succeeding each other. The hope of a *therapia sterilisans magna*—the complete destruction of the spirochetes of syphilis in an infected patient—is practically abandoned, and two or three or more injections are being used. And, finally, the recommendation of the use of salvarsan and then mercury, as heretofore, is the last evidence that the new agent is not equal to its proposed mission.

It cannot be emphasized too strongly that the situation with 606 is still experimental—and more experimental

than it was thought to be when the drug was introduced. Its position is not established; the degree of its usefulness—even of its immediate usefulness on the active manifestations of the disease—is not established. The amount of beneficial effect it will have on the after-history of syphilis is, of course, with our present brief experience with 606, purely theoretical—with grounds existing for different theories. Our present experience shows that it does not cure syphilis and that we are not justified in holding out to patients any hope of cure by it, but that it is likely to prove a useful remedy in syphilis, with mercury, however, as before, our chief dependence.

The foregoing statement can be abundantly substantiated from the recent literature. Particular attention in this connection may be called to the following references:

Dr. W. Fischer, assistant to Professor Buschke, who writes for Buschke's Dermatological Clinic in the Rudolf Virchow Krankenhaus, Berlin—the very center of the clinical exploitation of "606:" *Medizinische Klinik*, Nov. 6, 1910, p. 1778.

Professor E. Lesser and Sanitätsrath Dr. O. Rosenthal, Berlin: *Deutsche medizinische Wochenschrift*, Nov. 17, 1910, pp. 2175 and 2176.

Professor Gaucher, successor to Fournier in St. Louis Hospital, Paris: Paris Letter, THE JOURNAL A. M. A., Dec. 10, 1910, p. 2074.

Professor E. Finger, Vienna: *Wiener klinische Wochenschrift*, Nov. 24, 1910, p. 1667.

72 Madison Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

L-SUPRARENIN SYNTHETIC.—L-suprarenin synthetic is epinephrine produced synthetically according to the method of Stolz & Flaecher (Ztschr. f. physiol. Chem., 58, p. 189).

L-suprarenin synthetic is a white odorless powder nearly insoluble in water, alcohol and ether. It melts at 211°-212°. It has the power of rotating polarized light to the left:—

$$[a]\frac{19.6°}{D} = -51.4°$$

L-suprarenin synthetic has the chemical and physical properties and physiologic effect of natural epinephrine obtained from suprarenal glands.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.) German patent No. 222,451.

L-SUPRARENIN SYNTHETIC BITARTRATE.—L-suprarenin synthetic bitartrate is the acid tartrate of l-suprarenin synthetic.

It is a white odorless powder readily soluble in water yielding an acid solution. It melts at 149° and rotates polarized light to the left.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York). German patent No. 222,451.

PHARMACEUTICAL PREPARATIONS ACCEPTED FOR N. N. R.

The following dosage forms of accepted proprietary articles have been accepted for N. N. R.:

Protan and Opium Tablets, No. 1.—Each tablet contains opium 0.005 Gm. (1/12 grain) and protan 0.162 Gm. (2½ grains).

Protan and Opium Tablets, No. 2.—Each tablet contains opium 0.03 Gm. (½ grain) and protan 0.5 Gm. (7½ grains).

Supracapsulin Inhalent.—A solution 1:1,000 of supracapsulin in an aromatized neutral oil, containing approximately 2.5 per cent. of chloral and 10 per cent. of alcohol.

Therapeutics

NOT TUBERCULOSIS

History.—A young man, aged 28, came on Oct. 7, 1910, to ascertain how long he could live. He had been told that he had tuberculosis of the lungs, and had been treated three years for that disease. He had not worked for the last seventeen weeks, and was, in his opinion, rapidly growing worse. He had not a real cough, but he hawked and raised a great deal of yellowish sputum which was very frequently streaked with blood; in fact, hardly a day passed that he did not raise some blood. He had considerable gastric indigestion, some nausea, but no vomiting, quite a little gastric flatulence, but no pyrosis. A year and a half ago he had trouble with diarrhea, having movements of the bowels from ten to twelve times a day, but for the last six months the bowels had moved only two or three times a day, and not loose. The previous history shows that the patient had never really coughed, and that he had been subject to nose-bleed, sometimes as often as five or six times a week; it might not occur for several weeks, and then he would again have a period of it. He had no recognizable palpitation; no dyspnea on exertion; slept well; had had no swelling of the feet and legs. He had never had any urinary trouble, except a gonorrhea twelve years ago, and had no syphilitic history. He did smoke a great deal, but not so much during the last year. He also chewed tobacco. He had never used much alcohol. The only severe illness he ever had was pneumonia when 12 years of age. The patient's father died of kidney trouble; his mother was alive and well. One sister died of tuberculosis three years ago. The patient did not live in the same house as this sister. Three sisters and two brothers were alive and well.

Examination.—Last year at this time the patient weighed 127 pounds; he now weighed 136, and the weight had remained stationary for the last three months. His tongue was slightly coated and moist. The pulse was 78, occasionally intermittent. Temperature was 98 at 2 p. m. The heart was not enlarged, but showed an incomplete contraction of the ventricles every sixth to tenth beat, which accounted for the intermittency at the wrist. There were no murmurs. The lungs were absolutely normal. The abdomen was normal, with perhaps slight epigastric tenderness. There was an enlarged thyroid gland. The pharynx showed chronic catarrh, as did the naso-pharynx. The lingual tonsil was enlarged, coated, and showed a number of dilated blood-vessels. The nostril which bled the most frequently, the left, showed a swollen mucous membrane, and the mucous membrane of the septum was unusually red. The urine and the sputum were negative.

Diagnosis.—Disturbed thyroid secretion caused the diarrhea and the tendency to bleeding. The large amount of tobacco caused the throat catarrh, lingual tonsil irritation, and probably the irregular action of his heart. There was no tuberculous trouble in this patient.

Treatment.—The patient was told to go to work; to stop tobacco; and given Seiler's tablet gargle, and a small dose of sodium iodid to satisfy the probable need of the thyroid to improve its activity.

℞	Gm. or c.c		
Sodii iodidi	2		gr. xxxi
Aquæ menthæ piperitæ	100	or	fl ʒiv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

October 21: The patient has been working throughout the two weeks since last seen; is feeling very much better; has no cough, and less expectoration; the appetite is good; the bowels constipated. The pulse is regular, and the heart has ceased its reduplicating beat. The throat looks very much better, and the patient has raised no blood since October 11; has not quite stopped his tobacco. The patient is told to cease his use of tobacco absolutely, and to continue the same medication.

November 4: The patient feels well; is not in the least tired after working all day, and is perfectly able to work longer, he says. He has entirely ceased his use of tobacco; raises but little sputum, and that is white instead of yellow, and without a drop of blood. The tongue is in perfect condition; the appetite is fine; the bowels act normally; the pulse is regular, and the heart is acting perfectly. The throat looks almost normal; the lingual tonsil is apparently normal, except for some enlarged blood-vessels; the weight is 137 pounds.

The patient is dismissed; told to stop all medication, except twice a day for a short time to use a tannic acid gargle.

℞	Gm.	or	c.c
Acidi tannici	3	or	gr. xlvi
Glycerini	10	or	fl ʒiiss
Aquæ ad	200	or	ad fl ʒvi

M. et Sig.: Use as a gargle, twice a day.

REMARKS

A patient could not have had active tuberculosis of three years' duration, with profuse expectoration, with blood, without loss of weight, fever, tubercle bacilli in the sputum, and very evident lung lesions.

No examination of a patient is complete without an examination of the throat, and if he is coughing and raising blood, the laryngoscope should be used to examine the lingual tonsil and larynx.

Excessive use of tobacco can cause the disturbance of the heart as noticed in this patient.

Disturbed thyroid secretion can cause digestive disturbances, mucous membrane congestions, and a tendency to bleeding as occurred in this patient.

A small dose of iodid will often stimulate a thyroid to normal activity, and an enlarged thyroid may become reduced in size under such a treatment. This patient's thyroid was undersecreting and not oversecreting.

GOOD SENSE IN PRESCRIBING

The following has been recently recommended as an internal treatment for posterior urethritis:

℞	
Mass of copaiba	2 gr.
Oil of santal	2 *m*
Potassium bicarbonate	4 gr.
Extract of kava-kava	2 gr.
Atropin sulphate	1/250 gr.

M. et fac Pil. 1.
Sig.: One pill every two hours.

Further instruction is given that this treatment should be stopped after the urgency of urination has subsided, but there is no definite limit placed on the number of pills that shall be taken at the rate of every two hours.

In the first place, atropin sulphate is a potent drug. It is absolutely uncertain when each 1/250 will be absorbed from the sticky mass with which it is incorporated. It is therefore uncertain how much atropin will be in the patient at one time, even if each individual dose is small. Also, as the excretion of belladonna or atropin is very slow, taking certainly from ten to twenty hours, at least five doses, taken at two-hour intervals, would be in the patient at once, making 1/50 of a grain of atropin somewhere in him. Also, in this sort of a sticky mess several of the pills might dissolve very slowly, and then all at once several might dissolve rapidly, depending on their chemical surroundings, and the patient might be poisoned. In other words, this method of administering atropin is absolutely inexcusable. If atropin action is desired, a soluble tablet of atropin sulphate, uncombined, may be given the patient by the mouth, in doses of 1/250 of a grain, or, better, 1/200 of a grain, and repeated every four to six hours, if deemed advisable, to be stopped as soon as symptoms of atropin action were evident, viz., a dry throat, flushed face, or dilated pupils.

Massa copaibæ, not official in the last Pharmacopeia, but official in the Pharmacopeia of 1890, is really a solidified copaiba. Its action is similar to the better preparation of "Copaiba," which is official in the Pharmacopeia of 1900, and is a thick liquid. Copaiba, oil of santal, and kava-kava belong to the same class of drugs, *i. e.*, are all genito-urinary stimulants. In other words, theoretically, they should not be used in acute inflammations of this part of the body, but are valuable in subacute and chronic inflammations of the genito-urinary tract. They all interfere more or less with digestion, and may produce flatulence, pyrosis, and even nausea. They readily cause a coated tongue. The drug least likely to cause indigestion is the oil of santal; consequently, as these drugs act in the same way, the oil of santal should be preferred. Two grains of the mass of copaiba every two hours would soon cause gastro-intestinal disturbance, with no advantage to the patient over the oil of santal. Also, any drug, especially in pill or capsule form, should preferably be administered after meals, when it is least likely to cause stomach disturbance. Therefore, a genito-urinary stimulant administered in pill form every two hours is inadvisable.

As just stated, the oil of santal is the best genito-urinary stimulant, and there is no need for the others. There is nothing that oil of santal can do pharmacologically that the other two drugs can do better. There is nothing that oil of santal cannot do that the other two drugs can do pharmacologically.

The oil of santal in 2-minim doses, made into a solid pill, would require a considerable amount of dry excipient to absorb it. The oil of santal is best administered in flexible capsules, and it is better administered in larger doses, after meals, than in a small dose every two hours, when it is surely more or less irritant to the stomach.

Potassium bicarbonate is an alkaline diuretic. The dose of 4 grains, even every two hours, is very small. Such a dose would probably ordinarily not render the urine alkaline, as the dose for this purpose would be 2 gm., or 30 grains, three or four times in twenty-four hours. In amount to do any good, it must be administered in solution, and it tastes disagreeable. Potassium citrate is more agreeable to taste and will do as well. It may be administered as follows:

℞	Gm.	or	c.c.
Potassii citratis	40	or	ʒi
Aquæ gaultheriæ	200	or	fl. ʒv

M. et Sig.: 2 teaspoonfuls, in water, three, four, or five times a day, as deemed necessary.

There is no official extract of kava-kava. Kava-kava is a pepper (*Piper methysticum*) which grows in the South Sea Islands. It acts locally in the stomach and intestines as a pepper. It contains some resinous bodies which have been thought to have some action as a genito-urinary stimulant. Its action is certainly very much inferior to that of the oil of santal. As a drug it is not needed.

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SATURDAY, JANUARY 14, 1911

CANCER OF THE APPENDIX

In the early days of the surgical pathology of the appendix the occurrence of neoplasms of this organ was not often noted, but as the laboratories of hospitals and clinics became better organized and thorough gross and microscopic examination of all surgical specimens became a matter of routine, a histologic diagnosis of cancer in an appendix removed for supposedly simple appendicitis began to be somewhat less of a rarity. The literature of this subject also began to increase rapidly, and although there were but a few scattered cases reported before 1900, since that time medical journals have teemed with reports of single cases or small groups of cases. In 1908 McWilliams[1] was able to collect records of 105 cases, and since then a great number have been added, MacCarty[2] having reported one group of twenty-two cases among five thousand appendices removed by the Mayos. Statistics from large clinics, where great numbers of appendices are removed and thoroughly examined, have shown with remarkable uniformity that not far from 0.5 per cent. of all appendices removed for whatever cause show thickenings, nodules or tumor masses which exhibit a microscopic structure warranting the pathologist in returning a diagnosis of cancer.

In most cases this diagnosis reaches the surgeon as a surprise, the appendix having been removed for symptoms and findings which indicated nothing more than ordinary acute or chronic appendicitis; and at first such diagnoses occasioned much alarm and anxiety. The general experience, as exhibited by the literature, soon brought at least partial relief, for it was found that in spite of the positive diagnosis of cancer by the pathologist, the patients, when watched for several years, in but few instances gave evidence of recurrence or metastasis. To explain this unusual behavior of appendix carcinoma various explanations were suggested. Some authors have thought that because of the location of these cancers they soon cause symptoms of obstruction to the lumen of the appendix, leading to a diagnosis of appendicitis and removal at so early a stage in the development of the growth that metastases and regional infiltration have not developed. The pathologists have pointed out that the structure of these epithelial growths is usually somewhat different from that of the ordinary malignant cancers of the gastro-intestinal tract, many being of a spheroidal-cell type approaching in character the rodent ulcer or basal-celled carcinoma of the skin, which is notorious for its slow growth and its failure to produce metastases.[3] Other explanations have been offered, among them one based on the vestigial character of the appendix and the possibility that locally defective resistance might permit of a cancer growing here which could not obtain foothold in the normally developed structures elsewhere.[4]

Of late there has been a growing doubt as to whether, after all, these epithelial neoplasms in the appendix are true cancers, in spite of the typical invasion of the connective and muscular tissues by strands of columnar or spheroidal cells. Some of the reasons for skepticism are well put by Sitsen,[5] who calls attention especially to the fact that in large autopsy material pathologists do not find carcinomas arising from the appendix except as the greatest of rarities, nor did they in the days before the appendix was removed by operation for inflammatory attacks. If one in every two hundred inflamed appendices were carcinomatous, as the surgical laboratory statistics intimate, then among the hundreds and thousands of chronically inflamed appendices observed at autopsy there should be not a few fatal cancers. Of 1,460 cases of cancer in the public hospital of Berlin, however, in but one did the disease definitely arise in the appendix, and Nothnagel found but one such case in 2,124 cancers. Furthermore, the fact that out of about one hundred instances in which a microscopic diagnosis of cancer of a resected appendix has been made, only one has been reported as terminating fatally, gives abundant grounds for questioning the diagnosis.

In view of all this doubt concerning an important practical subject, we note with particular interest a warm discussion concerning cancer of the appendix at the last annual meeting of the German Pathological Society.[6] Winkler reported that he had found at autopsies no less than six appendices showing changes of the type usually diagnosed as carcinoma, yet in none of these cases was there evident regional infiltration or local or remote metastases. In the discussion which followed, participated in by some of the best-known pathologists in Germany, there developed much difference of opinion as to the exact status of these growths. It seemed to be generally agreed that they do not represent inflammatory hyperplasia of the endothelium of the lymph-channels, as some critics have suggested; but

1. McWilliams: Am. Jour. Med. Sc., 1908, cxxxv, 822.
2. MacCarty, W. C.: Classification of Appendicitis, THE JOURNAL A. M. A., Aug. 6, 1910, p. 488.
3. See Warthin: Physician and Surgeon, December, 1906.
4. Horsley, J. Shelton: Carcinoma of the Bowel and of the Appendix in the Young, THE JOURNAL A. M. A., May 8, 1909, p. 1471.
5. Sitsen: Centralbl. f. Path., 1910, xxi, 871.
6. Verhandl. d. deutsch. path. Gesellsch., 1910, xiv, 167.

as to whether they should be looked on as true carcinomas, or as "carcinoid tumors," or as epithelial malformations of either embryonal or inflammatory origin, there was no agreement. Perhaps a fair interpretation of the opinions expressed here and elsewhere would be somewhat as follows: True malignant epithelial growths do occasionally, but rarely, arise in the appendix, and their occurrence is probably favored by chronic inflammatory processes; these true cancers are usually of the typical columnar-celled type, and sometimes mucoid changes are present, but this latter or "colloid" form is less common than in cancer of the cecum. As a result of chronic appendicitis we also have a snaring off and displacement of epithelium, which may proliferate to some degree, forming atypical epithelial growths which are not true carcinomas, but which may resemble carcinoma closely, and into which they may also become transformed. Similar structures may also be produced by congenital malformation or displacement of the epithelial structures of the appendix, analogous to certain epithelial growths found elsewhere in the alimentary tract, and accounting for the supposed carcinomas which have been described in the appendices of young children. Finally, as a result of chronic infection, the endothelium of the lymph-channels of the appendix may proliferate in such a manner as to produce appearances strongly suggestive of cancer infiltration. The chief conclusion to be reached is that surgeons should appreciate, as well as the best pathologists do, the limits of our ability to decide positively from microscopic appearances alone the malignant or non-malignant character of each and every growth; and also that, especially in the appendix, we encounter not only true carcinomas, but also much more frequently epithelial proliferations which exhibit all the usual histologic criteria of malignancy without necessarily or commonly causing the clinical results usually associated with cancer.

PUBLIC HEALTH AND THE COURTS

The important decision of the Supreme Court of Minnesota which was cited in our last issue[1] is another indication of the gathering force of public opinion in matters of public health. The causes that sway public opinion and determine national character from age to age are often obscure, but their effects are nevertheless striking. The contrast between the Elizabethan Englishman and the Englishman of the time of Pope and Swift or of Lloyd George and Rudyard Kipling is one of the really important facts of history. The transformation in the national character of the German people which has occurred in the last hundred years is another and most remarkable instance of the change that may take place in the character of a great nation. Our knowledge of the underlying factors concerned in such changes is still very imperfect, although Bagehot's characteristically shrewd speculations on the subject are well worth reading.

No competent observer can doubt that we in this country are passing through one of these periods of transformation of national character. National ideals are shifting and new forces are making themselves felt in politics, business, religion and medicine. The greater sensitiveness now displayed by public opinion about all matters relating to the public health is one of the many manifestations of the new spirit. It is perhaps in keeping with the qualities of the legal mind that the courts should not be among the first agencies of public opinion to reflect the view that is becoming dominant. At the same time, it is well for many reasons that they should not be the last. In any case, public opinion will not indefinitely tolerate legal decisions that are sharply out of harmony with the prevailing type of national judgment or modes of thought.

The Minnesota decision, which holds that a municipality becomes liable for negligence if it carelessly allows the water in its waterworks system to become polluted, so causing deaths from typhoid fever, is an especially significant illustration of the increasing responsiveness of the courts to the modern view of public health responsibilities. The matter is put squarely on the same footing as negligence in regard to care of streets and sidewalks. One part of the decision merits wide publicity: "It is obvious that a sound public policy holds a city to a high degree of faithfulness in providing an adequate supply of pure water. Nor does it appear why the citizens should be deprived of the stimulating effects of the fear of liability on the energy and care of its officials; nor why a city should be exempt from liability while a private corporation under the same circumstances should be held responsible for its conduct and made to contribute to the innocent persons it may have damaged."

It remains to be seen what effect this decision will have on the outcome of damage suits that have been started in Rutland, Rochester and other places where typhoid fever has been attributed to public water-supplies. One thing is sure, however, and that is that the best public opinion will no longer rest satisfied with an explanation of "accidental" or "unavoidable" for extensive water-borne typhoid epidemics. Someone's negligence is usually responsible for such a catastrophe, and in many cases it will be found possible to assign responsibility and to insist on punishment or reparation so far as that is possible. The Minnesota decision will be warmly welcomed by everyone interested in having the established conclusions of modern medical science recognized by progressive legal opinion and made part of the law of the land. The translation of technical knowledge into practical measures for improving conditions of life is an indispensable condition of real progress.

1. Medicolegal Department, p. 65.

DAIRY INSPECTION

The extensive use of milk in the raw state as a food by both adults and infants, the ease with which it is contaminated and its qualities as a culture medium for dangerous bacteria, render it important that the highest degree of purity be secured and maintained in its production and after-care. To this end there has been a constantly increasing activity on the part of health officers and sanitarians to improve the quality of the milk-supplies of cities and towns. Local milk commissions for securing milk of certified quality have been organized, and regular inspections of dairies instituted. We commented recently[1] on the practical side of clean milk production and its cost.

It is generally agreed that a bacteriologic examination furnishes the most accurate insight into the conditions which have prevailed during the production and handling, and that the bacterial content of the milk is the proper index of its purity or safety as an article of diet. Some authorities think that an ideal milk would contain no germ life, but such an ideal would doubtless be difficult of attainment. No way has been found of producing milk with less than a few hundred bacteria per cubic centimeter, since milk in the udder is not sterile; and under commercial conditions milk with a few thousand bacteria per cubic centimeter must perhaps be considered the limit of the attainable.

In the production of a pure or safe milk with a low bacterial content, care is necessary at four stages: in production, in transportation, in distribution, and, by no means least in importance, in the home after it is finally distributed. The first three may be controlled by suitable legislation, by inspection and laboratory examinations; the last must be improved by proper education of the consumer. Milk may be produced with care, yet become unwholesome through improper handling during transportation and distribution. If it is produced with too little care, or, as is frequently the case, with gross carelessness, subsequent attention cannot make good milk of it.

The chief attention should be concentrated on a cleanly and hygienic production; and therein the rôle of the inspector is most important. Much depends on the knowledge and judgment of the inspector. Unfortunately at present the inspection of dairies is carried on largely by persons not properly educated for the duties. Many delicate points have to be considered and decided, and their decision depends not only on intelligence and experience, but on a technical knowledge of the various sciences concerned, particularly of bacteriology. Without a thorough knowledge of dairy bacteriology, some points are sure to be overlooked or misjudged. Inspectors may insist on changes which are not justified in the light of modern knowledge, or on points about which scientists still disagree, in consequence of which dairymen who endeavor to produce a truly sanitary milk become discouraged or are put to needless expense and annoyance. It is therefore highly important that dairy inspectors be men of good practical judgment, thoroughly trained in the technical requirements of clean milk production, and well acquainted with the best work in dairy research. The card system of recording the results of inspections and establishing the rating of each dairy has proved of value, but needs further elaboration and improvement. About this we may have something to say later.

1. Jan. 7, 1910, p. 48.

SURGEONS AS NON-BELLIGERENTS IN WAR

In his recent and notable "History of the Confederate War," Eggleston calls attention[1] to a great step forward in the civilization of warfare which was brought about by one of America's great surgeons, who was also one of the Presidents of the American Medical Association. The event makes an epoch in the betterment of the customs of war, and its origin deserves to be more widely known than it is. In describing Stonewall Jackson's Valley Campaign, Eggleston pauses to give the following account of the event in question, which occurred after the battle of Winchester, in May, 1862:

"In the meanwhile, it is pleasant to record here one step forward in civilization which was made during this campaign, and the author of which, Dr. Hunter McGuire, deserves remembrance for his humanity. Until that time, and indeed for long afterward, surgeons in charge of hospitals full of wounded men, on falling into the enemy's hands, were treated as prisoners of war. After every battle, therefore, the surgeons of a retiring army, in charge of wounded men from both sides, must make a hard choice. They must either abandon their patients—many of whom were in desperate need of immediate surgical attention—or they must submit themselves to the rigors and sufferings of a military imprisonment, precisely as if they had been taken in battle. As a result of this peculiar barbarism of war the wounded—by the flight of their surgeons—were often left unattended at the critical moment that meant to them the difference between life and death. Many precious lives were needlessly sacrificed to this barbaric military practice.

"At the battle of Winchester Jackson captured all the Federal surgeons in charge of the field hospitals there, but instead of sending them to Belle Isle or Andersonville or Libby Prison, he acted on the suggestion of his medical director, Dr. Hunter McGuire, and released the doctors unconditionally on the rational and humane ground that surgeons do not make war, and ought not to be subjected to war's pains and penalties, and on the still more rational and humane ground that it is needful for the care of the wounded on both sides that surgeons shall be permitted to remain at their posts

1. Eggleston, George Cary: The History of the Confederate War, I, 385, et seq.

until surgeons on the other side can replace them, regardless of army movements and without fear of being sent to a loathsome prison as a punishment for their faithfulness to their merciful duty.

"This step forward in the amelioration of war's horrors was not generally followed up until two years later when, during the tremendous struggle of 1864, General Lee and General Grant, acting on their own humane impulses and with no authority except the confidence of each that his acts would be approved, agreed that surgeons in charge of wounded men should not be made prisoners of war. . . .

"It was Dr. Hunter McGuire who first offered this suggestion in behalf of humanity, and it was Stonewall Jackson who first took the responsibility of acting on it. To their memory history should record honor for it."

It is a pleasant duty to repeat this bit of history and to give this tribute to one who left a rich heritage of good deeds.

Current Comment

DOCTORS DIGGING THE DITCH

Under the above heading the *St. Louis Republic* recently made the following editorial comment:

When a great medical inventor or chemist discovers anything which promises to be or is of great benefit to mankind his discovery or invention at once becomes the common property of the human race without royalty or rate beyond that of personal service of the physicians who may administer such remedies.

When a great commercial chemist or inventor makes a discovery of value to humanity he at once capitalizes it, and all mankind pays high tribute in the form of sometimes prohibitive royalty.

In digging the Panama Canal the United States is obliged to pay tribute to monopolists of machinery and to patentees of various mechanical devices.

Yet had it not been for the physicians who have made the canal zone habitable through sanitation the efforts of all the inventors and "world conquerors," of engineers and machinists would amount to exactly nothing.

The doctors of the United States, not its engineers or mechanics, are doing the most important work in the great isthmian ditch. Yet it is the soldier, the engineer, the mechanic to whom the honors are accruing.

Why is it that temporal honor and financial reward seem so bent upon being diverted from the ways in which they should properly travel?

The construction of the Panama Canal has been, and is, a magnificent object-lesson on the possibilities of prevention of disease by the application of facts connected with modern scientific medicine. No one will deny that the French had as good plans, as good engineers, as good machinery, and as good workmen as we have; but the French could not build the canal. And what was the reason? Simply that they could not keep enough men out of the hospitals and graveyards to complete it. The men sickened and died as fast as they could be imported. When the United States undertook the construction of the canal, the government did not call in the representatives of various erratic cults, "mind-cure healers" or patent medicine vendors to solve the problem as it related to health. Its solution was entrusted to educated, experienced, specially trained, scientific medical men; to those who brought to its solution the latest and best methods of modern science. And the results have justified the methods. The civilized world has marveled at the result of the work of the Sanitary Department of the Isthmian Canal. Yet, it is simply the application of modern medical science. There is not a village, not a city, not a state that cannot secure equal results in the way of prevention of sickness and the saving of life, if such methods are adopted and if competent men are given authority and opportunity.

STATE SOCIETIES AND A SANE FOURTH OF JULY

At least one state medical society, that of Pennsylvania, through a special committee, has been doing energetic work toward the securing of safer methods of celebrating the Fourth of July. This committee, which was appointed a year or two ago, has been giving wide publicity throughout the state to the statistics of deaths and injuries as published annually in THE JOURNAL, and has also been conducting a campaign through local clubs, societies and associations of Philadelphia, to secure the enforcement of existing laws, or the adoption of new laws restricting or prohibiting the use of fireworks during the celebration of Independence Day. Since proper control by the larger cities means practically the solution of the problem, the committee has drawn up two model prohibitive ordinances, one for boroughs and one for cities, and is now working to secure their adoption. The committee has also been working for the substitution of more desirable methods of celebration, such as picnics, parades, pageants, field sports and the like. The splendid work being done by the Medical Society of the State of Pennsylvania through its able committee is worthy of emulation in other states.

CONSUMPTION-CURE FAKES

At different times THE JOURNAL has exposed the methods of those firms and individuals who make capital out of the consumptive by advertising "cures" for his disease. The way in which one of these cruel frauds is carried on may be taken as typical of the methods of all. On another page[1] a widely advertised concern of this kind is dealt with—the J. Lawrence Hill Company. Like another "consumption cure" shown up a few weeks ago, the firm is located at Jackson, Michigan, a town which has also fathered such fakes as the Magic Foot Drafts, the Van Vleck Pile Cure, Young's Pepto-Pads, the Vitalia Company, Vibro Discs and Lung Germine. One of the reasons for this city being so popular as headquarters for mail-order medical fakes is made evident in the article before referred to: at least three of the concerns are operated by the same group of business men. The fact of the matter is, medical mail-order companies, as a general rule, are in no sense the property of those renegade members of the

1. Page 134.

medical profession whose names appear on the stationery of the concern. Such physicians usually are merely cheap tools in the hands of business men who are concerned not at all with the moral, much less with the ethical, phase of the subject of quackery. The cruelty of promising to cure such diseases as cancer and consumption by means of pills bought in million lots from pharmaceutical houses does not, apparently, occur to such men. The business is, to them, merely a cold-blooded commercial proposition: A few thousand pills; a series of follow-up letters; a batch of testimonials; a cheap and unscrupulous physician; an advertising campaign—these are the stock-in-trade by which those engaged in this disreputable business gather in the toll of blood that pays dividends on the money invested. A pretty business, forsooth!

Medical News

CALIFORNIA

Million to Hospital.—Through the generosity of the heirs of Calvin Page and D. O. Mills, St. Luke's Hospital, San Francisco, will receive an endowment of more than a million dollars.

Personal.—Dr. John C. Hollister, formerly of Chicago, has recovered his health and settled in Los Angeles to resume practice.——Dr. M. Evangeline Jordan has been elected president of the Professional Woman's League of Los Angeles.

Advertising Abortionist Sentenced.—Charles H. Carelton, Los Angeles, charged with using the mails to advertise unlawful surgery, is said to have been found guilty, December 28, and fined $2,500. This individual was arraigned in 1909 on the charge of conducting the business of an abortionist and of using the mails in furtherance of this occupation. He is said to have pleaded guilty to a similar charge in 1908 and was fined $1,500.

Elections.—At the annual meeting of the Alameda County Medical Association, held in Oakland, Dr. Alexander S. Kelly, Oakland, was elected president; Dr. William A. Clark, San Leandro, vice-president; Dr. Pauline S. Nusbaumer, Oakland, secretary, and Dr. Dudley A. Smith, Oakland, treasurer.—— The Santa Clara County Medical Society, at its annual meeting held in San José, December 21, elected the following officers: president, Dr. Jonas Clark, Gilroy; vice-presidents, Drs. William S. Van Dalsem, San José; Harry B. Reynolds, Palo Alto, and Robert L. Hogg, Saratoga; secretary, Dr. William T. McNary, San José; treasurer, Dr. Henry J. B. Wright, San José; delegates to the state association, Drs. A. Lincoln Cothran and Henry C. Brown, both of San José, and alternates, Drs. Louis V. Saph, Morgan D. Baker, John L. Benepe and Edward F. Holbrook, all of San José.

ILLINOIS

Enters Penitentiary.—Dr. J. Allen Cotton, Peoria, entered the State Penitentiary, Joilet, December 28, to serve an indeterminate sentence for forgery.

Small-Pox in State Hospital.—Employees and patients of the Elgin State Hospital have been vaccinated on account of the discovery that the chief gardener was ill with small-pox.

State Board Election.—At the annual meeting of the State Board of Health, held in Springfield, January 5, Dr. George W. Webster, Chicago, was reelected president, and Dr. James A. Egan, Springfield, was reelected secretary.

New Trial Granted.—In the case of Dr. Benjamin A. Arnold, Freeport, convicted in the March term of the circuit court of Stephenson County on account of criminal assault, and sentenced to four years in the penitentiary, the supreme court has reversed and remanded the case.

Superintendent of Health Loses Case.—In a case instituted by Dr. George T. Palmer, Springfield, against Dr. Addison C. James, Springfield, for alleged violation of the city ordinance which prescribes the reporting of all cases of communicable diseases, the magistrate dismissed the case on motion of the city attorney on the ground that the evidence was not sufficient.

Sterilization of Defectives.—A bill is being prepared by Judge Sherman, president of the State Board of Administration, with the assistance of Dr. Frank Billings, chairman of the State Commission on Charities, providing for the sterilization of habitual criminals, imbeciles, idiots and feeble-minded wards of the state. The bill provides that in all cases the subject must be examined and passed on by an authorized board before this operation is performed.

Personal.—Dr. Charles M. Noble, Bloomington, who has been confined in a hospital on account of a fracture of the leg, is convalescent and has left the hospital.——Dr. Thomas E. Walton, Danville, was thrown from his buggy recently, fracturing a rib.——Dr. Edward E. Barbour, Peoria, is reported to be seriously ill with typhoid fever in St. Francis Hospital. ——A judicial inquiry is to be made with the object of determining the mental condition of Dr. William P. Pierce, Hoopeston, who is alleged to be on the verge of a nervous collapse.

State Board Recommendations.—The Illinois State Board of Health, in its annual report to the governor, recommends the creation of a state sanatorium for consumptives; a bill providing for better methods of registration in vital statistics to conform with the provisions of the census bureau of the United States; a law providing for a revised medical practice act so as to give the State Board of Health jurisdiction over all licenses issued since 1877; continuation of the provision for free distribution of diphtheria antitoxin to all classes of people, and a special provision for the investigation of typhoid fever in the state.

Hospital Notes.—By the will of the late Elizabeth Shaw, Dixon Public Hospital is bequeathed $30,000.——The Colonial Hospital, Geneva, has been incorporated by Drs. Raymond G. Scott, Francis M. Marstiller and others. The hospital now has accommodation for twenty-five patients.——A hospital for the care of destitute crippled children, costing $50,000, has been erected 3 miles west of Wheaton, as a branch of the Home for Destitute Crippled Children, Chicago. Sixteen acres of land were donated to the institution by Sears, Roebuck and Company.——A private sanitarium for the treatment of nervous diseases is being established by Dr. George W. Mitchell in Peoria.

Good Work at the Edward Sanatorium.—The report just issued of the Edward Sanatorium, Naperville, of which Dr. Theodore B. Sachs is medical director, gives an analysis of the first four years of the work of this institution. Of the patients who were admitted in the incipient stages of the disease, 91.5 per cent. have been discharged as either cured or the tuberculosis process arrested, and these are all still maintaining their condition and full working capacity. Of the moderately advanced cases treated at the sanatorium during the same period, 35 per cent. are at present in possession of full working capacity. The State Association for the Prevention of Tuberculosis maintains that the fact that patients taken in the first stages are cured at relatively small expense and again become productive members of the community, is a convincing argument in favor of state and local provision for the curable consumptive, obviating as it does the necessity of later care at county expense for both the advanced consumptive and his family left destitute.

The Apfelbaum Case.—The State Board of Health has served notice on David Apfelbaum that if he continues to practice, additional suits will be brought against him. In June last the board revoked his certificate for advertising under another name than his own, and for fraudulent use of the United States mail in conducting medical practice. A short time ago the board learned that Apfelbaum was still engaged in practice. He was served with notice to discontinue. The notice was disregarded. The board then brought suit against him for practicing medicine without a license. The defendant, through his attorney, declared that he had a license and that there was no provision in the law enabling the board to prosecute a man who had once been issued a license. The attorney took exception to this plea and pressed the suit which was tried in the municipal court, January 3. The court decided against Apfelbaum, who has appealed to the supreme court.

Chicago

Senn Memorial.—The building of a new high school at Ridge and Francis Avenues is recommended to relieve the old Lake View High School which is to be torn down. The new school is to be known as the Nicholas Senn High School.

Personal.—Dr. and Mrs. Robert H. Babcock and family have gone to California for a stay of two months at Pasadena.—— Dr. Jacob M. Furstman has been appointed commissioner of health of Lacrosse, Wis.——Dr. Claude Tilleson, an intern at the Henrotin Memorial Hospital, was painfully burned while acting as Santa Claus at a Christmas celebration at the Nurse's Home of the hospital.

Impure Food Seized and Condemned.—More than 6,200 cans of tomato paste, weighing 124,000 pounds, said to be used by hotels and restaurants in making soup and tomato bouillon, were seized, December 30, by United States deputy marshals, who raided box cars in the Pennsylvania Railroad yards, following the filing of a libel against the tomato paste, in the United States District Court, declaring that the "paste was putrid, decomposed and contained filthy matter."

Hospital Notes.—The Iroquois Memorial Emergency Hospital, a monument to the six hundred and more who lost their lives in the Iroquois Theater fire, Dec. 30, 1903, was dedicated December 30, with impressive ceremonies. The building is of fireproof construction, four stories and basement in height, and contains twenty rooms, including four surgical dressing rooms and two operating rooms.——An order was issued December 29, allowing the Northern Trust Company as trustees of the will of the late Anna W. Durand to purchase a site for a hospital for infectious diseases. Mrs. Durand bequeathed $375,000 to be used for the erection and maintenance of the hospital.——The dispensary department of the Municipal Tuberculosis Sanatorium opened a night clinic at Gad's Hill Center, January 5. The dispensary is open Thursday evenings from 7 to 8 for the benefit of patients who are unable to come during the day.

KENTUCKY

Sisters of Charity Plan Sanatorium.—The Sisters of Charity of Nazareth are arranging to establish a tuberculosis sanatorium near Louisville at an expense of about $50,000.

Nurses' Home Damaged by Fire.—The Nurses' Home of the Jewish Hospital, Louisville, was damaged by fire to the extent of $3,000, recently. Fortunately no casualties occurred.

Typhoid in Railway Shop.—Owing to the prevalence of typhoid fever among employees of the Louisville and Nashville Railway shop, South Louisville, the county bacteriologist is making investigation of the water-supply used by the men at work. Fifteen cases of typhoid fever occurred among these men during the last three months.

Jefferson County Society Meeting.—The annual business meeting and election of officers of Jefferson County Medical Society was held in Louisville, January 2. The following officers were elected: president, Dr. Virgil E. Simpson; vice-presidents, Dr. Albro L. Parsons and Walker B. Gossett, and treasurer, Dr. Hugh N. Leavell, all of Louisville.

Vital Statistics Law.—The Kentucky Vital Statistics Law went into effect January 1. The first infant to be registered under the law was born at Bowling Green, the home of the secretary of the State Board of Health and the headquarters of the Vital Statistics Bureau. Registrars have been appointed in every county in the state largely by magisterial districts, save in larger cities and towns where one registrar will serve.

Personal.—Dr. William Bailey, the oldest practitioner of Louisville, fell on an icy pavement, December 27, and sustained an impacted fracture of the arm; on January 2, he had a mild cerebral hemorrhage, but nevertheless he is reported to be in favorable condition.——Dr. W. Ed Grant, health officer of Louisville, has returned from Pass Christian, Miss.——O. C. Robertson, Cynthiana, has been appointed the osteopathic member of the State Board of Health.

New Officers for Antituberculosis Society.—At the annual meeting of the Kentucky Association for the Study and Prevention of Tuberculosis, held in Louisville, Dr. Joseph N. McCormack, Bowling Green, was elected second vice-president; Dr. Hervey Keller, Frankfort, third vice-president, and Drs. Joseph N. McCormack, Bowling Green; Dunning S. Wilson, Louisville; George P. Sprague, Lexington; Henry P. Sights, Paducah; Vance Rawson, Danville; Hervey Keller, Frankfort, and J. C. Carpenter, Stanford, directors.

MARYLAND

Typhoid Fever at Naval Academy.—The outbreak of typhoid fever at the United States Naval Academy, Annapolis, which began in November last, affected twenty-six midshipmen without a single death, and 200 of the cadets submitted to vaccination with anti-typhoid serum. The outbreak has been traced to infected milk.

Personal.—Dr. William D. Hammond, Hagerstown, has been appointed resident physician of the Free Skin and Cancer Hospital, St. Louis.——Dr. Guy Steele, Cambridge, is ill with pneumonia.——Dr. Arthur L. Wright, assistant physician at the Maryland Hospital for the Insane, Catonsville, has been made pathologist, vice Dr. Robert P. Winterode, resigned to take charge of the proposed new State Hospital for the Colored Insane.——Dr. Augustine S. Mason, Hagerstown, is reported to be critically ill at his home.

Society Meetings.—At the annual meeting of the Talbot County Medical Society, held in Easton, the following officers were elected: president, Dr. William S. Seymour, Trappe; vice-presidents, Drs. Philip L. Travers, Easton; Joseph A. Ross, Trappe; secretary-treasurer, Dr. Clifford M. Steele (reelected); censors, Drs. Edward R. Trippe and S. Denny Willson, Easton, and Charles H. Rose, Cordova; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. James A. Stevens, Easton.——The Medical Society of Somerset County held its semiannual meeting in Princess Anne, elected Dr. Teackle J. Smith, Princess Anne, president, and reelected Dr. Ralph L. Hoyt, Oriole, secretary-treasurer.

Baltimore

Hospital Sued.—Suit has been started against Mercy Hospital for $25,000 damages for the death of a man suffering from pneumonia, who, while delirious, threw himself or fell from a window. Negligence of those having the patient in charge is alleged.

Personal.—Dr. M. E. B. Owens, of the University Hospital staff, left for Spokane, December 23.——Dr. William H. Howell has resigned as dean of the Johns Hopkins Medical School, and has been succeeded by Dr. J. Whitridge Williams. ——Dr. John W. Churchman, resident physician at Johns Hopkins Hospital, has resigned.——Drs. William Emrich and Hugh W. Brent have returned after three years in Brazil.—— Dr. William J. Schmitz has been made second assistant bacteriologist of the City Health Department.

MASSACHUSETTS

Milk Commission.—The personnel of the Suffolk District Medical Milk Commission, beginning January 1, will be as follows: chairman, Dr. James Marsh, Jackson; secretary, Dr. Richard M. Smith; and Drs. George A. Craigin, Robert L. DeNormandie, B. L. Arms, and Fritz B. Talbot, all of Boston.

Personal.—Dr. F. Lyman Wells, formerly assistant in pathologic psychology in McLean Hospital, Waverly, has been made assistant in experimental pathology in the Psychiatric Institute of the New York State Hospitals and lecturer in psychology in Columbia University.——Dr. Edward Wyllys Taylor, Boston, has been nominated to succeed Dr. George F. Jelly, resigned, as a member of the State Board of Insanity. ——Dr. Charles G. Dewey, Boston, has been made senior insanity expert, and Dr. William P. Prescott, junior expert. ——Dr. Charles S. Tomkies, a member of the Boston City Hospital medical staff and former house officer of the Long Island Hospital and Alms House, has been appointed resident physician at that institution, vice Dr. George W. Holmes, resigned.

Bequests.—By the will of the late Mrs. William O. Moseley, Newburyport, $200,000 is bequeathed to the Anna Jaques Hospital, Newburyport, to be divided into two funds, of which the income only is to be used. The first fund is to be known as the William O. Moseley Fund and the income is to be applied to the purposes of the hospital; the other fund is to be known as the Julia M. Hale fund, and the income is to be devoted to the maintenance of free beds.——By the will of the late Rev. Thomas Griffin, former pastor of St. John's Church, $10,000 is devised to St. Vincent's Hospital.——By the will of John Ashton, who died nearly half a century ago, the Massachusetts General Hospital will now receive more than $20,000. The estate has been in litigation since the death of the testator in 1867.——By the will of Mrs. Sarah A. Matchett, Brookline, $50,000 is bequeathed to the McLean Hospital, Waverly, and $25,000 to the Massachusetts General Hospital, together with certain contingent bequests to the McLean Hospital.

NEVADA

Postgraduate Course in Washoe County.—Washoe County Medical Society took up the postgraduate course recommended by the American Medical Association, January 1. The society is divided into four classes, each class meeting once a week.

Personal.—Dr. John A. Ascher, Sparks, has been elected state senator from Washoe County.——Dr. William H. Hood, Reno, has returned from a six-months' trip around the world. ——Dr. Lee T. Richie, formerly of Reno, has removed to Trinidad, Colo.——Dr. A. Parker Lewis, Reno, has been seriously ill with pneumonia followed by septicemia from an infected finger.——Dr. John A. Lewis, Reno, has returned after a year abroad.——Dr. Sydney Clarke, Tonopah, is reported to be dangerously ill in a sanatorium in California.

NEW YORK

Albany Hospital Loses.—Because Dr. Willis G. McDonald, who died a short time ago, forgot to put his signature to his will, thus making it worthless under the law, the Albany Hospital with which he was connected for so many years will lose a bequest of $50,000, and also his surgical instruments and library. The estate goes to his relatives.

Would Discontinue Directory.—At the annual meeting of the Medical Society of the County of Chemung, resolutions were adopted setting forth the loss to the Medical Society of the State of New York in publishing the Tri-State Medical Directory, and urging the discontinuance of the publication of the directory. The state society is declared to lose more than $6,000 each year in publishing the directory.

Personal.—Dr. Frederick S. Lee, New York City, has been appointed to the directorship of the department of physiology of Columbia University.——The ninetieth birthday of Dr. Alfred Mercer, the oldest practicing physician of Syracuse, was made the occasion of a complimentary party, tendered to him by the Syracuse Academy of Medicine, at which Dr. John L. Heffron presided as toastmaster. Dr. Albert E. Larkin, on behalf of the guests, presented Dr. Mercer with a handsomely-bound copy of the souvenir dining card, bearing his photograph, and signed by those present at the dinner.

New York City

Harvey Society Lecture.—The fourth lecture of the Harvey Society Course, delivered January 14, by Dr. Arthur R. Cushny of the University of London, is on "The Therapeutics of Digitalis."

High Birth and Low Death Rate.—During 1910 this city has recorded the lowest death rate since records have been kept, and also the highest birth rate. The lowest death rate from tuberculosis and typhoid fever and the lowest mortality among infants are also reported.

Herter Lectures.—The first of the six lectures on "The Irregularities of the Heart," given under the Herter Foundation of the University and Bellevue Hospital Medical College, was delivered by Dr. Arthur R. Cushny of the University of London, January 9, at the Carnegie Laboratory.

Hospital Buys Property.—The Presbyterian Hospital has added to the site for the new hospital buildings twelve and one-half lots just west of the property acquired and immediately north of the site on which the buildings of the Rockefeller Institute for Medical Research have been erected.

Officers of the New York Neurological Society.—The following officers were elected for the year 1911: president, Dr. L. Pierce Clark; vice-presidents, Drs. Smith Ely Jelliffe and Dr. Edward W. Scripture; corresponding secretary, Dr. J. Ramsay Hunt, and recording secretary and treasurer, Dr. Edwin G. Zabriskie.

Dr. Alexander's Death.—The Medical Board of Bellevue Hospital, at its meeting, January 1, recorded on its minutes the removal by death of Dr. Samuel Alexander, who had been connected with the hospital from the time of his graduation until his death, and bearing testimony to Dr. Alexander's ability as a surgeon, and earnest, sympathetic and noble qualities as a man.

Injunction Against Expulsion.—The New York County Medical Society recently expelled Dr. Robert Kunitzer and Dr. Louis Anton Ewald for falsification of the Sydenham Hospital records. Dr. Ewald has asked the Supreme Court to continue a temporary injunction restraining the Board of Censors of the County Medical Society from taking action toward expelling him.

Donation to Medical School and Hospital.—A gift of $1,300,000 has been pledged for the perfection of the affiliation of the Presbyterian Hospital and the medical school of Columbia University. The gift was made through Edward H. Harkness, and is believed to have come from members of his family. He himself contributes $300,000 for the erection of a surgical pavilion to be equipped with modern appliances and also a complete laboratory for advanced research work.

Reorganization of Health Department.—Dr. Ernest J. Lederle, commissioner of health, in a talk before the City Club, January 7, outlined the work of the department for the last year and detailed his plans for the coming year. One plan is the reorganization of the department on lines to increase its efficiency. This will include the question whether the commission of sanitary inspectors of the various boroughs will have charge of certain functions or whether full power will be centered in the commissioner.

Christmas Gifts for Hospitals.—The Hospital Saturday and Sunday Association, which helps to maintain forty-five hospitals of this city has asked for a fund of $200,000 this year as a Christmas donation. Of the 79,132 persons cared for in these hospitals during the past year, 42,484 received free treatment. The annual expenditures of these hospitals are in nearly every case larger than their receipts and the cost of maintaining a patient has increased from $1.17 daily per capita ten years ago to $2.06 at present.

Personal.—The appointment of Dr. Daniel Potter as director of the new board of ambulance service has been approved by the municipal civil service commission.——Dr. Simon Flexner, who was operated on for appendicitis at the Presbyterian Hospital, December 5, has entirely recovered and has left the hospital.——Dr. Theodore C. Janeway has resigned from the City Hospital Board.——Dr. Ernest J. Walker, Fordham Hospital, was recently injured in a collision between an ambulance and a street car, and as the result of the injury was obliged to have his arm amputated.

To Conserve Eyesight.—At a meeting of physicians and laymen at the United Charities Building a National Association for the Prevention of Blindness and the Conservation of Eyesight was formed. In addition to the conservation of eyesight the association will interest itself in social purity, the prevention of infant mortality and the safeguarding of industrial occupations. National and state medical associations, educational and commercial bodies, labor organizations, women's clubs and other societies dealing with social problems will be invited to cooperate with the new association. Dr. F. Park Lewis of Buffalo was elected Chairman of a Board of Directors to be named in the near future.

Accidents to Children.—There were seventy-six children of school age killed last year in street accidents. The National Highways Protective Association says that 40 per cent. of these accidents were due to the carelessness of the children or their ignorance of the conditions of street traffic. This society caused warnings to be printed and posted and to be read in the schools. The German newspapers printed the notice and commented on it, bringing it forcibly to the minds of parents and it is stated that in no instance was a German child maimed or killed. The necessity of teaching children to care for themselves in the streets should be brought to the attention of teachers and parents. The school masters of Boston have formed a committee of Prevention of Street Accidents to Children and are considering the most feasible ways of incorporating into the minds of the older children a sense of responsibility for younger ones.

Public Health Lectures.—A series of lectures which form part of the New York work of the Public Health Education Committee of the American Medical Association was inaugurated January 12, under the auspices of the Public Health Education Committee of the Medical Society of the County of New York and the Hygiene Committee of the New York City Federation of Women's Clubs. The lectures are to be given alternate Thursday afternoons and Wednesday evenings, and two, three or four lectures are to be given at each session. On January 12, the session was devoted to Home Hygiene; that of January 18 will consider Industrial Hygiene; January 26, the Cause and Prevention of Some Common Diseases; February 1, Insect-Borne and Water-Borne Diseases; February 9, Pure Milk and Infant Hygiene; February 15, Public Hygiene; February 26, The Health of the School Child; March 1, Congenital and Acquired Deformities and Their Prevention; March 9, Mental Hygiene; March 15, Alcohol and Meat in Relation to Disease; March 23, Health of Women, in Youth and Maturity; and March 29, The Care of the Eyes. The use of Hosack Hall has been offered through the courtesy of the Council of the New York Academy of Medicine.

PENNSYLVANIA

Personal.—Dr. George R. Vernon has resigned from the presidency of the Board of Health of Clifton Heights.——Dr. William T. W. Dickenson, of Media, one of the oldest physicians in Delaware County, celebrated his eighty-third birthday anniversary, January 5.

War on Food Adulterations Successful.—Statistics compiled by James Foust, of the State Food and Dairy Commission, show that the campaign against food adulterations has diminished greatly the number of infractions of the law. During the year special agents purchased and the chemists analyzed 5,594 samples of food products. Prosecutions for adulterations misbranding, departure below standard and other infractions of the food laws were terminated in 621 cases; 231 were oleomargarin cases, seventy milk cases and sixty-

two ice cream cases. The fines and costs imposed by the courts in these cases amounted to $30,405.92, of which those for the violation of the oleomargarin law amounted to $15,456.92.

Officers Elected.—At the November meeting of the Washington County Medical Society, the following officers were elected: president, Dr. Robert E. Conner, Hickory; vice-president, Dr. Joseph W. Hunter, Charleroi; secretary-treasurer, Dr. John B. Donaldson, Canonsburg; and censors, Drs. Olie P. Dearth, William J. L. McCollough, both of Washington, and John H. Carey, Prosperity.——At the meeting of the Somerset County Medical Society, held at Meyersdale, October 18, the following officers were elected: president, Dr. Maurice Stayer, Rockwood; vice-president, Dr. Henry I. Marsden, Somerset; financial secretary, Dr. Henry Hertzler, Jenners; secretary, Dr. Henry C. McKinley, Meyersdale, and treasurer, Dr. Walter S. Mountain, Confluence.

Philadelphia

Hospital Does Not Need State Aid.—The St. Agnes Hospital has notified the State Board of Charities that it will not apply for an appropriation from the legislature, because the bequest of $70,000 of James I. McCauley, who died in that hospital four years ago, will become operative during the present year. Its last biennial appropriation was $50,000.

College of Physicians Election.—The following officers and elective committees were chosen at the January 4 meeting of the College of Physicians of Philadelphia to serve for the year 1911: president, Dr. George E. de Schweinitz; vice-president, Dr. James C. Wilson; censors, Drs. Richard A. Cleeman, S. Weir Mitchell, Arthur V. Meigs and James Tyson; secretary, Dr. Thomas R. Neilson; treasurer, Dr. Richard H. Harte; honorary librarian, Dr. Frederick P. Henry, and councilors, Drs. Francis X. Dercum and William T. Shoemaker.

Housing Commission Committee Appointed.—At a conference of the Philadelphia Housing Commission, held on December 15, in the Mayor's office in the City Hall, it was decided to appeal for better legislation in the campaign to improve conditions in the congested city districts. The following committee was appointed to prepare a bill for presentation in the legislature: Dr. Richard H. Harte, Mrs. Hannah Fox, Dr. Charles J. Hatfield, Mrs. B. Weston, Dr. Frances C. Van Gasken, Montgomery Harris, F. S. Hall, Dr. Samuel Furbish and Mrs. Wendel Reber.

Gift to the University.—It was announced on January 4, that on December 31, the last day of Mr. C. C. Harrison's provostship, he received a gift of $100,000 from an alumnus of the University of Pennsylvania, to endow the chair of physiologic chemistry in the Medical School. The donor of the fund, who has requested that his name be withheld, has asked that the new chair be called "The Benjamin Rush Chair of Physiologic Chemistry." Dr. Alonzo E. Taylor, who was called from the University of California last fall, to occupy the chair of physiologic chemistry, will become the Benjamin Rush professor.

Officers Elected.—At a December meeting of the West Philadelphia Medical Association, the following officers were elected to serve for 1911: president, Dr. Hiram L. Lutz; vice-president, Dr. Charles P. Pike; corresponding secretary, Dr. Henry G. Munson; financial secretary, Dr. Walter M. Miller; treasurer, Dr. Edmund L. Graf; board of directors, Drs. Aaron L. Bishop, Benjamin F. Wentz, Christian B. Longenecker, Arthur E. Bogart, A. Wiese Hammer, George M. Astley, George C. Shammo, Charles H. Wallace, William S. Newcomet, Sherman F. Gilpin and F. Mortimer Cleveland.——At the annual meeting of the South Branch of the County Medical Society, held on December 30, Dr. Stuart C. Runkle was made president; Dr. William N. Bradley, vice-president and delegate to the Philadelphia County Medical Society, and Dr. Paul B. Cassidy, secretary, all of Philadelphia.

Personal.—Dr. David L. Edsall, professor of medicine in the University of Pennsylvania, has resigned and accepted the professorship of preventive medicine in Washington University, St. Louis.——Dr. Arthur C. Sender has been appointed chief of the *x*-ray department in St. Joseph's Hospital.——Dr. Max F. Herrman has been appointed to the out-patient gynecologic staff of St. Joseph's Hospital.——Drs. W. A. Newbold, Francis Stover and Howard L. Hull have been appointed to the out-patient medical staff of Jefferson Medical College Hospital.——Dr. Philip J. Conlon, a resident physician in the Germantown Hospital for the past year, left that institution on January 4, to take a similar position at St. Agnes Hospital. He is succeeded by Dr. C. B. Mack.——Dr. Simon Wendkos, superintendent of Mount Sinai Hospital, resigned January 7, to take effect on March 1. He will go to Berlin where he will take a special course in medicine and surgery.

TEXAS

Society Meetings.—At the annual meeting of the South Texas District Medical Association, held in Port Arthur, December 8, Dr. Wilbur E. Thomson, Beaumont, was elected president; Dr. Howard R. Dudgeon, Galveston, vice-president; Dr. Edward F. Cooke, Houston, secretary-treasurer (reelected). The next meeting will be held in Galveston in July, 1911.—— The Fifth District Medical Society, at its semi-annual meeting in San Antonio, elected the following officers: president, Dr. Evarts V. DePew, San Antonio; secretary, Dr. Ferdinand C. Walsh, San Antonio; and treasurer, Dr. Louis G. Wille, New Braunfels (reelected).——At the annual meeting of the Fourth District Medical Society in San Angelo, Dr. T. Richard Sealy, Santa Anna, was elected president; Dr. J. Ernest Robinson, Brownwood, secretary-treasurer; and Coleman was selected as next place of meeting.——At the annual meeting of the El Paso Medical Association, December 5, Dr. Henry F. Safford was elected president; Dr. Harry H. Stark, vice-president and editor of the bulletin; Dr. R. Irvin McNeil, secretary-treasurer; and Dr. William H. Pickles, censor.——The Big Springs-El Paso Medical Society held its annual meeting in Sweetwater, recently, and elected the following officers: president, Dr. Newton J. Phenix, Colorado; vice-president, Dr. John W. Overton, Sweetwater; and secretary-treasurer, Dr. Granville T. Hall, Big Springs.——At the annual meeting of the Taylor County Medical Society, held in Abilene, December 6, Dr. Manton M. Carrick, assistant superintendent of the State Epileptic Colony, was elected president; Dr. Marion Armstrong, Merkel, vice-president and censor; and Dr. J. M. Estes, Merkel, secretary-treasurer. The members of the society were guests of Dr. James M. Alexander at a dinner. Dr. M. M. Carrick presided as toastmaster.

VIRGINIA

New Secretary of State Society.—Dr. Paulus A. Irving, Farmville, has been elected secretary of the Medical Society of Virginia, vice Dr. Laudon B. Edwards, deceased.

Expectorators Fined.—As a result of the crusade of the Norfolk Board of Health against spitting on sidewalks, fines of two dollars each were assessed against a negro and a white man recently.

Hospital Notes.—The Southern Hospital and Dispensary Company has been incorporated at Richmond with capital of $50,000.——Fire at Catawba Sanatorium, the State Tuberculosis Camp, destroyed a building causing damage of $800.—— The resident physician at Catawba Sanatorium announces that ninety-five patients are now under treatment at the hospital.

Medical Fraternity Election.—The eighteenth annual meeting of the Centrum Ovale of the Pi Mu National Medical Fraternity was held in Richmond, December 17. Dr. Paul W. Howle, Richmond, was elected senior councilor; Dr. Charles M. Byrnes, Charlottesville, junior councilor; Dr. Francis W. Upshur, Richmond, calamus scriptorius; Dr. Lawrence T. Price, Richmond, calyx; Dr. Wallace D. Carr, Richmond, librarian, and Dr. N. Thomas, Richmond, editor of the annual.

GENERAL NEWS

Journal Becomes Monthly.—The general manager of the Rockefeller Institute for Medical Research announces that the *Journal of Experimental Medicine* begins its thirteenth volume as a monthly instead of a bi-monthly as heretofore. Two volumes will be issued each year, without change in the price of subscription. Dr. Benjamin T. Terry has succeeded Dr. Eugene L. Opie as the associate of Dr. Simon Flexner in the editorial control of the magazine.

New England Alumni Meet.—The New England Association of the New York Medical College held its eighth annual meeting and banquet in the Parker House, Boston, December 13, and elected the following officers: president, Dr. Elgin W. Jones, Lynn, Mass.; vice-presidents, Drs. Ira. J. Prouty, Keene, N. H.; Albion S. Whitmore and Charles O. Thompson, both of Boston; secretary, Dr. J. Henry Woods, Brookline, Mass., and treasurer, Dr. James H. Stuart, Boston.

Interstate Meetings.—At the annual business meeting of the Marinette (Wis.) and Menominee (Mich.) Medical Society, December 14, Dr. Calvin R. Elwood, Menominee, was elected president; Dr. David R. Landsborough, Daggett, Mich., vice-president, and Dr. Earl V. McComb, Menominee, secretary-treasurer.——The Society of Missouri and North Arkansas Surgeons held its annual meeting in Helena, December 14, and selected Heber Springs as the next place of meeting.

The following officers were elected: president, Dr. Hugh L. Routh, Batavia, Ark.; vice-presidents, Drs. S. A. Russell, Fairview, Mo.; Clifford H. Trotter, Helena, Ark., and William B. Snipes, Spring Creek, Ark., and secretary, Dr. Tillman B. Bradford, Cotton Plant, Ark.

CANADA

Sanitarium Fire.—Fire did $50,000 damage to the Homewood Sanitarium at Guelph, Ont., January 6. All the inmates were removed safely and found accommodation in a private residence adjoining the sanitarium.

Dominion Society to Meet.—The forty-fourth annual meeting of the Canadian Medical Association will be held in Montreal during the first week of June, 1911, immediately following the official opening of the new McGill medical buildings.

Increase of Cancer in Ontario.—During the seven years up to and including 1908 8,769 persons of all ages died in Ontario from various forms of cancer. In 1902 the number was 1,048; 1903, 1,156; 1904, 1,253; 1905, 1,224; 1906, 1,411; 1907, 1,329, and 1908, 1,348.

Montreal Medical Journal Announces Its Discontinuance.—Having just issued its December number, the *Montreal Medical Journal* announces that it will cease publication, as it has been acquired by the Canadian Medical Association as its official organ. The title of the new journal is somewhat in doubt as "The Canadian Medical Journal" infringes on the title of one of the other medical journals of Canada. The history of medical journalism in Montreal is given from 1844 when the *Montreal Medical Gazette* came into existence, up to the present time.

Personal.—Dr. W. B. Kendall, superintendent of the Muskoka Cottage Sanatorium, Gravenhurst, has gone to Europe to study the latest phases of the tuberculosis problem.——Dr. Joseph E. Laberge, chief of the infectious diseases department, Montreal, has been appointed a member of the Board of Health of the Province of Quebec.——Dr. Charles H. Vrooman, Winnipeg, formerly in charge of the Manitoba Sanatorium for Consumptives, Ninette, has been appointed superintendent of the Tranquille Sanatorium in British Columbia.——Dr. James T. Rogers, Montreal, has returned from Europe.

Tuberculosis in Ontario.—From the published report of the Registrar-General for Ontario, which has just been issued for the year 1908, it is seen that tuberculosis is declining materially in the province of Ontario. The largest number of deaths from this disease in any one year was that of 1900, when the total was 3,484. In 1901 the number was 3,284; 1902, 2,694; 1903, 2,723; 1904, 2,877; 1905, 2,667; 1906, 2,911; 1907, 2,530; 1908 2,511—a decrease in the eight years of 973. The death rate from tuberculosis in Ontario per 1,000 of the estimated population is 1.12; in the city group, it is 1.43; in the town group, 1.17; for the balance of the province, 1.002.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Dec. 31, 1910.

The Destruction of Rats

The epizootic of plague among rats in Suffolk, accompanied by four cases in man and occasional imported cases of plague observed in the London docks, which have been reported in previous letters to THE JOURNAL, have led to great activity in the destruction of rats. The Board of Agriculture and Fisheries has issued a leaflet on the destruction of rats. Of poisons, barium carbonate is recommended as the cheapest and best. It causes thirst and therefore induces the rats to seek water in the open, where they die. It may be used in the proportion of one part to four parts of meal mixed into a dough with water, or may be spread on fish or moist toasted bread. It is added that if rats find that any of their fellows die after eating any kind of food they avoid such food for some time, so that it is generally necessary to vary the form and appearance of the bait. With regard to rat virus the results are found to be uncertain, owing partly to difficulty of securing successful infection in all cases, and partly to the fact that if only slightly infected, rats recover and become immune to the disease. When it is desired to exterminate the rats in a district all methods—hunting, trapping and poisoning—should be used and the attack made in a circle radiating from a spot in which it is considered that the final work of destruction can be accomplished with the least difficulty.

Salvarsan in England

As in all civilized countries, salvarsan, or "606," has become a burning topic, not only in the profession, but in lay circles, and has been the subject of a long article in the *Times*, a journal in which such a technical as well as objectionable (from the lay standpoint) subject as the treatment of syphilis is very much out of place. Considerable difference of opinion exists as to the value of the new remedy. Mr. McDonagh, surgeon to the London Lock Hospital, who has had by far the greatest experience with it in Great Britain, reports favorably on it and endorses all the claims made by Ehrlich. In all stages of syphilis rapid recovery followed a single injection. He has treated 130 cases, in only three of which recurrence took place, two of these patients being cured by a second injection; only five patients did not respond at all. Lichen syphiliticus, which is most resistant to mercury, was cured by a single injection. Malignant syphilis associated with tuberculosis was improved beyond recognition. In nerve paralysis from syphilitic meningitis almost complete power of the muscles was regained. In one case of tabes the Argyll-Robertson pupils disappeared and the knee-jerks returned, and also morning erections which had been absent for years. However, out of seventeen patients with tabes only three improved so much that the lightning pains disappeared. General paralysis in the early stage improved considerably.

On the other hand, Mr. Ernest Lane, another specialist, declares that his results have been no better than he would have expected from mercury. One patient with syphilitic ulceration improved temporarily, but soon relapsed; another injection was followed again by improvement and another relapse, the ulcer spreading to twice its former size. In one case hyperpyrexia followed the injection for ten evenings.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Dec. 23, 1910.

The Lannelongue Prize

The Lannelongue prize, which consists of a gold medal and the sum of $1,000 (5,000 francs), to be awarded every five years (THE JOURNAL, April 3, 1910), has just been awarded for the first time. Sir Victor Horsley of London is the first recipient.

The New Director of the School of Pharmacy

Professor Guignard, who desires to devote himself hereafter solely to scientific work, has requested the minister of public instruction to relieve him of the directorship of the higher school of physiology and pharmacy, which he has carried on for about fifteen years, having succeeded Professor Planchon. The faculty of the school has unanimously elected a new director, M. Henry Gautier, professor of inorganic chemistry at the school.

Personal

On December 20, the Académie de médecine held its annual election, Professor Lannelongue, the vice-president, assuming the presidency of right. Dr. Gariel, professor of medical physiology at the Paris medical school, was elected vice-president, and Drs. Weiss and Henriot were elected secretary and treasurer, respectively.

Relief of Foreign Paupers

M. Emil Loubet, former president of the republic, as president of the Association internationale d'assistance publique et de bienfaisance privée, has asked the government to invite the powers to a diplomatic conference to arrange a treaty in regard to the relief of foreign paupers in conformity with the resolution adopted by the Congress of Copenhagen (THE JOURNAL, Sept. 10, 1910, p. 956). The conference will probably be held in Paris, the headquarters of the association.

Civil Responsibility of the Surgeon

A patient who was operated on at the Beaujon hospital by Dr. Bazy for an ovarian cyst brought suit against the surgeon for $10,000 (50,000 francs) damages for having left in the cystic cavity two compresses which finally penetrated into the rectum and were eliminated by the anus. The court recognized that Dr. Bazy had been at fault, but as it was established that the present condition of the patient had no relation with this

fact, and that at the time of her admission to the hospital, her health and even her life had been in great danger, and as it was impossible to overlook the fact that the plaintiff probably, not to say certainly, owed her life to Dr. Bazy's intervention, the court reduced the amount of damages to $1,000 (5,000 francs).

Dr. Bazy has appealed from the decision and has laid the question before the Société des chirurgiens des hôpitaux de Paris, in the following form: 1. Is it scientifically possible, assuming that compresses were left in a cyst in the course of operation, that this cyst, which was malignant according to experts, might, whether spontaneously, through its epithelial nature, or secondarily by the presence of the compresses, have ulcerated or caused the ulceration of the intestine so as to permit the passage of two compresses, measuring a meter in length by 30 centimeters in thickness (about a yard long by about 12 inches wide), without having caused any stercoral fistula? 2. This decision would constitute a precedent which would encourage fraud and would threaten professional independence. Is it not most desirable that the society should take measures to free surgery from this handicap? To study these questions, the society has appointed a commission, composed of Dr. Sagond, president of the société des chirurgiens des hôpitaux, Dr. Nélaton, representative of the same society on the *conseil de surveillance* of the Public Charities, Dr. Routier, president of the Société de chirurgie, Drs. Delbet and Quénu and Professor Reclus, one of the three experts in the case (added to the commission at his own request).

Premiums with Medical Journals

Up to the present, certain lay journals have been the only ones which have offered premiums for subscriptions. Recently, the first number of a new weekly journal of medicine, called *Paris Médical*, published under the direction of Prof. A. Gilbert, has offered premiums "worth several times the price of the subscription." A monthly medical periodical, announced to appear January 15, also offers premiums to the first 5,000 subscribers in France and all of the foreign subscribers. "Our premiums are not," says the advertisement, "such worthless trifles as paper-knives and blotters; they are worth at least the price of the *Æsculape*, and most of them are worth much more." This new and curious phase of medical journalism cannot be too much deplored.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, Dec. 16, 1910.

Personals

Prof. Franz König, the distinguished surgeon, died at Berlin, December 12, aged 78. König was one of those whose researches secured the development of modern surgery. Endowed with keen powers of observation and an inventive mind, he early recognized the significance of antisepsis and asepsis and enriched surgical pathology with a series of important observations and in his classical demonstrations became a model for scientific study and teaching. Diseases of the bones and joints were prominent subjects of his study. He also did good work in the course and results of wounds of the lung, stenosis of the rectum, tracheotomy in croup, the operation for congenital dislocation of the hip, etc. His large three-volume text-book of special surgery monopolized the book market for a long time and has only lately been somewhat approached by other text-books. It is remarkable that König without having joined any faculty was chosen on the ground of his literary publications in 1869 as regular professor of surgery at Rostock. A few years after his service in the Franco-Prussian war he was called to Göttingen where he worked for twenty years. When Langenbeck resigned as director of the surgical clinic in Berlin, König received a call as his successor, but declined on account of his health. However after the death of Bardeleben he accepted charge of the surgical clinic at the Charité in Berlin. Here he performed a great service in the rebuilding of the surgical clinic. After he had performed this task he resigned his position in 1904 while still fully capable of service. König possessed the fullest confidence both of the medical profession and of his clientele, owing to his strong personality and his completely reliable character. In criticism he was sharp and merciless, but under his rough exterior was hidden deep feeling.

Professor Riess, former assistant of Frerichs and for many years director of the internal medicine department of the hospital at Friedrichshain, celebrated his seventieth birthday December 15.

Dr. Kurz, privat-docent at Heidelberg, has been appointed director of the institute for legal medicine at that place.

Robert Koch Memorial

On December 10, a mausoleum for Robert Koch was opened in the institute for infectious diseases of which he was director for many years. It was formed from some rooms of the institute. The funds for the rebuilding, amounting to about $5,000 (20,000 marks), were contributed by his many pupils and friends. The mausoleum consists of two rooms, the first a small antechamber in which some of the scientific instruments used by Koch, his numerous domestic and foreign honorary diplomas, models of the medals awarded to him, and other memorials of his life are placed. Here also is the so-called "golden book" of the Robert Koch Foundation for the War on Tuberculosis that contains in an artistic setting the history of the foundation and the autographs of the larger contributors to the fund including the Kaiser, Andrew Carnegie, Prince von Donnersmarck, the representatives of the cities of Berlin, Charlottenburg, Hamburg, Bremen, etc. In the special memorial hall, in a niche that is closed with a white marble slab, is placed the urn that contains the ashes of Robert Koch. The walls and floors are all of marble. Over the niche for the urn is a marble tablet on which is a portrait of Koch in relief, larger than life size, and on the opposite wall the chief dates of Koch's life are engraved.

December 11 the special memorial service took place in the new hall of the university. The large hall which seats about 1,500 persons was filled with a mourning throng which included many physicians, especially members of the Berlin medical faculty, representatives of the government and the chief German medical faculties and representatives of many medical societies as well as of foreign universities and societies. Of his relatives there were present his son-in-law, Professor Pfuhl, his brothers and sisters, his widow and others. On the other hand, his daughter by his first wife did not appear, probably on account of the family difficulties which arose in connection with the divorce of his first wife and marriage to his second wife, who, as is well known, was before her marriage a member of an operetta troupe. The memorial address was delivered by Professor Gaffky who was for many years a pupil of Koch and is his successor as director of the institute for infectious diseases. The musical part of the memorial service, which was rendered by distinguished talent, was a great factor in the profound impression produced by the entire memorial.

Fourth International Congress for Thalassotherapy

A few days ago there occurred a session of the German imperial commission for the fourth international congress for thalassotherapy which is to assemble in June, 1911, at Kolberg, the Baltic seashore resort. The transactions showed that the preparations for the congress are making the best of progress and promise a very successful meeting especially in scientific lines. The congress is to consider the success and limitations of sea bathing as a therapeutic agent. Especial contributions will be offered by the Prussian institute for oceanology on the physical properties of sea water, e. g., its different and varying content in salts at the individual watering places. On the climatic conditions of the bathing resorts on the North Sea and the Baltic information will be furnished by the meteorologic institute.

Third International Congress for Infant Hygiene

The empress has assumed the protectorate of the congress to be held in Berlin, Sept. 11-13, 1911, and the imperial chancellor has accepted the chairmanship of the honorary committee. Following the congress there will be a visit to the international exposition of hygiene at Dresden which, to judge from the great style in which the preparations are being carried out, will be of unusual importance.

Hospital Provision in Prussia

According to the official review recently published, the number of general hospitals in Prussia in 1908 amounted to 2,203 with 147,737 beds; 1,167,000 patients were given about 35,500,000 days' care. For every 10,000 inhabitants, there were in 1908 38.4 beds and 303.35 patients against 38.33 beds and 293.20 patients for 1907.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Dec. 17, 1910.

Protests Against Proposed Legislation

As I wrote in a previous letter, the plan of establishing a special committee for the purpose of controlling the charitable institutes has aroused a vehement burst of indignation on the part of the medical profession. Not only have the medical councils protested against an arrangement to which the profession was not a part, but the directors and professors of the Austrian hospitals and clinics have also called the attention of the public and the government to the fact that such an undertaking would be answered by them with a resignation of all posts. This was brought to the knowledge of the ministry of education by a deputation through which the clinical professors demanded freedom and independence for their scientific research. The plan has now been so changed that only the financial transactions will be handed over to the various diets (of states) while the other grievances shall form the subject of negotiations between the factors concerned. One of the principal demands of the medical circles is that politics and religion shall have no bearing whatever on the appointment of the staff and that recommendations by the hospital staff as regards appointments and scientific equipment shall have the first consideration.

Marriages

FELIX S. JENKINS, M.D., to Miss Regina Randolph, at Baltimore, December 26.

MARION DILLON, M.D., Fairfield, Mo., to Miss Ethyl Kahl of Windsor, Mo., recently.

ALOIS F. JUETTNER, M.D., to Miss Cora K. Amann, both of Cincinnati, December 27.

CARL C. STEVENS, M.D., to Miss Hazel Arnold, both of Sharon, Wis., December 27.

MARK F. HOPKINS, M.D., to Miss Hazel M. Wintringer, both of San José, Cal., December 20.

WILLIAM B. LINTON, M.D., to Miss Florence L. Whitney, both of Minneapolis, December 14.

ROBERT GAYLORD DAVIS, M.D., Des Moines, Ia., to Miss Vera Hartley of Durand, Ill., December 27.

OSCAR M. OWENSBY, M.D., to Miss Bessie Myrtle Frazier, both of Pittsburg, Kan., December 31.

JAMES B. MARTIN, M.D., Traverse City, Mich., to Miss Mabel Bullock of St. Joseph, Mo., December 20.

WALLACE BRUCE SMITH, M.D., U. S. Navy, to Miss Louise Blake, at San Mateo, Cal., December 21.

JAMES L. LYNCH, M.D., Winona, Minn., to Miss Nora J. Guidinger of St. Charles, Minn., December 28.

JAMES ALBERT SULLIVAN, M.D., East St. Louis, Ill., to Miss Ethelynne P. Weisert of Vincennes, Ind., May 25.

FRANK MARION SPRAGUE, M.D., Seattle, Wash., to Miss Ethelinda Ireland of Pocatello, Ida., December 29.

GEORGE EDWARD CHAPPELL, M.D., to Mrs. Isobel Brown, both of Grass Valley, Cal., at San Francisco, December 23.

LEROY SPANGLER HOWARD, M.D., Harrisburg, Pa., to Miss Myrtle Ada Snyder of Loganville, Pa., December 22.

JAMES DAWSON REEDER, M.D., Baltimore, to Miss Anne Carey Gourley, at Holland's Point, Md., December 30.

WILLIAM S. CROUCH, M.D., Stafford, Kan., to Mrs. Ella Pennington of Ashland, Ky., at Herrin, Ill., December 8.

MARSHALL DICKSON CORNELL, M.D., to Miss Susie Cherry, both of Sallisaw, Okla., at Fort Smith, Ark., December 26.

THEODORE H. TRAPPE, M.D., Hecker, Ill., to Miss Lela Mannen of Waltonville, Ill., at Mount Vernon, Ill., December 29.

WILLIAM M. DAVIS, M.D., South Omaha, Neb., to Miss Lorene Emery of Lincoln, Neb., at Mynard, Neb., December 26.

MARY COFFIELD SMITH, M.D., Grand Rapids, Mich., and William Waldemere Von Baumgartner of Frankfort-on-the-Main, Germany, December 28.

Deaths

David Sherwood Kellogg, M.D. University of Vermont, Burlington, 1873; a charter member and trustee of the Northern New York Medical Association; a member of the Medical Society of the State of New York; pension examiner at Plattsburg from 1883 to 1900; health officer of the city from 1878 to 1880; on various occasions acting assistant surgeon U. S. Army at Plattsburg Barracks; a veteran of the Civil War; a trustee of the State Normal School and Public Library; died at his home in Plattsburg, December 19, aged 63.

William Smith Janney, M.D. Pennsylvania Medical College, Gettysburg, 1854; Jefferson Medical College, 1880; assistant surgeon of the Twenty-First, and surgeon of the Twenty-Sixth New Jersey Volunteer Infantry during the Civil War; a veteran of the Indian Border War in Kansas in 1856; coroner of Philadelphia in 1880; for sixteen years surgeon of the Philadelphia Hospital, and for twenty years to the Girard College Hospital; died at his home in Philadelphia, December 24, from heart disease, aged 78.

Carl Heinrich Kroeber, M.D. Dartmouth Medical School, Hanover, N. H., 1895; College of Physicians and Surgeons, New York City, 1896; of Yonkers, N. Y.; vice-president of the Jenkins Medical Society; a member of the staff of St. Joseph's Hospital, Yonkers; since 1902 a medical officer of the National Guard of New York, and assigned to the Tenth Infantry; died at the Loomis Sanatorium, Liberty, N. Y., December 12, from tuberculosis, aged 41.

Damon S. Cummings, M.D. Northwestern University Medical School, Chicago, 1876; a member of the American Medical Association; for six years mayor and for twenty-five years president of the School Board of Waseca, Minn.; for two terms superintendent of schools of Waseca County; a member of the board of control of the State School for the Indigent, Owatonna; died in St. Luke's Hospital, St. Paul, December 25, aged 60.

James Swinburne Hopkins, M.D. New York University, New York City, 1882; a member of the Medical Society of the State of New York and New York Academy of Medicine; formerly professor of ophthalmology in the New York College of Veterinary Surgeons, and assistant surgeon to the New York Ophthalmic and Aural Institute; died at his home in New York City, December 19, from chronic meningo-encephalitis, aged 51.

Isaac Prince, M.D. Hahnemann Medical College, Chicago, 1878; for ten years a missionary in Jamaica; a chaplain during the Civil War; for several years assistant superintendent of the Foundlings Home, Chicago; founder of the Home for Destitute Crippled Children, and instrumental in establishing the first three day nurseries in Chicago; died in the Church Home for Aged People, Chicago, January 2, from pneumonia, aged 76.

Willis Horton Pratt, M.D. University of Michigan, Ann Arbor, 1869; of Stillwater, Minn.; a veteran of the Civil War; for several years prison physician, coroner and physician of Washington County, and city physician; for one term a member of the legislature; for ten years president of the local pension board; died at his home, December 15, from uremia, aged 76.

John W. Blanton, M.D. Hospital College of Medicine, Louisville, 1884; a member of the Kentucky State Medical Association, and formerly president of the Jefferson County (Ky. Medical Society, and Jefferson County Milk Commission; died tion, and formerly president of the Jefferson County (Ky.) December 26, from cerebral hemorrhage, aged 58.

Eben Hillyer, M.D. Jefferson Medical College, 1854; major and surgeon in the Confederate service during the Civil War; later a practitioner of Rome, Ga., and since 1885, president of the Rome Railroad; died at his home in Rome, December 19, from the effects of shock following a fall, in which he sustained a fracture of a leg and internal injuries, aged 78.

James Atwood Crowell Milliken, M.D. Medical School of Maine, Brunswick, 1910; intern in the Western Washington Insane Hospital, Fort Steilacoom; a member of the Kappa Sigma Fraternity and Phi Chi Medical Fraternity; died at his home in New Bedford, Mass., December 29, from lymphatic leukemia, aged 25.

Edward Storror, M.D. University of Pennsylvania, 1863; a surgeon of volunteers during the Civil War, and for several years thereafter a contract surgeon in the army; afterward

special sanitary agent of the French government in Cochin, China; died at his home in Berkeley, California, December 3, aged 73.

Roscoe H. Goodrich, M.D. University of Vermont, Burlington, 1876; a member of the American Medical Association, and American Association of Railway Surgeons; local surgeon of the Chicago, Milwaukee and St. Paul Railway; died at his home in Chamberlain, S. D., December 19, aged 56.

Edward Page Granville Holderness, M.D. Missouri Medical College, St. Louis, 1860; Bellevue Hospital Medical College, 1875; consulting surgeon to St. Joseph's Hospital Bloomington, Ill.; of Chenoa, Ill.; died in Chicago Heights, Ill., January 1, from bronchopneumonia, aged 78.

Harrie William Moellering, Jr., M.D. Toledo (O.) Medical College, 1909; of Goshen, Ind.; a member of the Goshen Medical Society; while crossing a railway track near Goshen in his automobile, December 29, was struck by an express train and instantly killed, aged 28.

Andrew Judson Ervey, M.D. Rush Medical College, 1874; a member of the Michigan State Medical Society; a veteran of the Civil War; while crossing the railway track at his home in Wheeler, December 26, was struck by a passenger train and instantly killed, aged 65.

Walter J. Wait, M.D. Washington University, St. Louis, 1880; formerly coroner of St. Louis, but of late a practitioner of Joplin, Mo.; died at the home of his father-in-law in St. Louis, December 6, from amyloid disease of the kidney, aged 51.

Ira E. Cox, M.D. Central College of Physicians and Surgeons, Indianapolis, 1895; a member of the Indiana State Medical Association; formerly a practitioner of Indianapolis; died at his home in Goldsmith, Ind., December 20, from septicemia, aged 42.

John K. Hertz, M.D. Pennsylvania Medical College, Gettysburg, 1860; a member of the Medical Society of the State of Pennsylvania; a school director of Lexington; died at his home in that place, December 28, from valvular heart disease, aged 78.

Elsa M. Meador, M.D. Eclectic Medical Institute, Cincinnati, 1887; a member of the Kentucky State Medical Association; of Drake, Ky.; died in St. Joseph's Hospital, Bowling Green, Ky., December 14, from tuberculosis of the hip, aged 50.

William Powell Gordon, M.D. Washington University, St. Louis, 1867; Missouri Medical College, St. Louis, 1875; a member of the American Medical Association; died at his home in Carlyle, Ill., October 10, from cirrhosis of the liver, aged 66.

Samuel P. Smith, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1901; formerly of Cornelia, Ga.; president of the Ocmulgee Medical Association; died in a sanitarium in Atlanta, December 12, from cerebral hemorrhage, aged 39.

Osman Royal, M.D. Boston University School of Medicine, 1885; of Portland, Ore.; formerly president of the State Medical Board; died suddenly in that city, while watching a football match, December 31, from heart disease, aged 54.

Jonas Hoover (license, Nebraska, 1891); Ensworth Medical College, St. Joseph, Mo., 1892; of Waverly, Neb.; for thirty-seven years a practitioner; died in the Everett Sanitarium, Lincoln, Neb., December 17, from nephritis, aged 71.

John W. Pitts, M.D. University of Pennsylvania, 1867, a member of the Medical and Chirurgical Faculty of Maryland; a Confederate veteran, and first mayor of Berlin; died at his home, December 27, from pneumonia, aged 69.

John Aloysius Hemsteger, M.D. Chicago Homeopathic Medical College, 1890; and formerly professor of materia medica in his alma mater; died suddenly at his home in Chicago, January 5, from cerebral hemorrhage, aged 56.

Daniel Michael Driscoll, M.D. College of Physicians and Surgeons, New York City, 1900; a member of the American Medical Association; of Bridgeport, Conn.; died in St. Vincent's Hospital in that city, December 18, aged 33.

James B. Stephens, M.D. University of Nashville, Tenn., 1857; of Nashville; was thrown from his buggy in a collision with a taxicab, December 10, and died from his injuries five hours later in Dr. Fort's Infirmary, aged 76.

Herman F. Goetsch, M.D. Marquette University, Milwaukee, 1903; died at the home of his brother in Milwaukee, December 20, from the effects of cyanid of potassium, self-administered, it is believed with suicidal intent, aged 37.

William G. Gray, M.D. Washington University, St. Louis, 1862; for many years a practitioner of Greene County, Mo.; died at the home of his daughter in St. Louis, December 22, from disease of the intestine, aged 73.

Charles Stuart Maynard, M.D. Eclectic Medical Institute, Cincinnati, 1859; for fifty years a practitioner of Van Buren County, Mich.; died at his home in Paw Paw, December 23, from cerebral hemorrhage, aged 80.

John Joshua Martin, M.D. Keokuk (Ia.) Medical College, 1904; of McCausland, Ia.; who moved to Davenport in November last; died in the Davenport Hospital, December 19, from intestinal obstruction, aged 42.

George W. Stapleton, M.D. Missouri Medical College, St. Louis, 1857; for sixty years a practitioner of Albany, Mo.; died at the home of his son in that place, December 21, from cerebral hemorrhage, aged 86.

Alexander Stephens Dyar, M.D. Southern Medical College, Atlanta, Ga., 1883; for four years city physician of Atlanta; died at his home in New Orleans, December 23, from tuberculosis of the larynx, aged 48.

William Harvey Leach, M.D. Cincinnati College of Medicine and Surgery, 1861; a member of the Medical Society of the State of California; died at his home in Napa, November 22, from angina pectoris, aged 75.

Raymond W. Chamberlain, M.D. Washington University, St. Louis, 1909; of Fisher, Ill.; senior medical intern at the City Hospital, St. Louis; died in that institution, December 24, from typhoid fever, aged 27.

Rebecca Lippett Smith, M.D. Hygeio-Therapeutic College of New York, New York City, 1859; New York Free Medical College for Women, 1873; died suddenly at her home in Syracuse, N. Y., December 11.

Hugh Henry Haden, M.D. University of Nashville, Tenn., 1886; a member of the Medical Association of the State of Alabama; died at his home in Holly Pond, December 25, from heart disease, aged 50.

Isaac B. Yeakel, M.D. University of Pennsylvania, 1866; a member of the Medical Society of the State of Pennsylvania; died at his home in Bally, December 30, from tuberculosis, aged 70.

Braxton Wise, M.D. Tulane University, New Orleans, 1883; a member of the Louisiana State Medical Society; died at his home in Benton, December 27, from cerebral hemorrhage, aged 55.

Franklin J. Geiger, M.D. Medical College of the State of South Carolina, Charleston, 1858; a Confederate veteran; died at his home near Saint Matthews, S. C., November 30, aged 75.

Amos S. Smith (license, Pa. 1881); for almost half a century a practitioner of Pennsylvania; died at his home in Bismarck, December 27, from heart disease, aged 78.

Ashbury Westfall, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1869; a resident of California for fifty years; died at his home in Monterey, November 30.

Oscar Augustus Perine, M.D. Eclectic Medical College of the City of New York, 1888; died at his home in Brooklyn, December 23, from uremia, aged 45.

George L. Ezzard, M.D. Southern Medical College, Atlanta, Ga., 1892; of Atlanta; died at a private sanitarium in that city, December 19, aged 44.

Lloyd E. Goodpasture, M.D. Washington University, St. Louis, 1908; died at his home in Thayer, Ill., December 25, from typhoid fever, aged 28.

Horace Parrish Taylor, M.D. Bellevue Hospital Medical College, 1889; died at his home in Norfolk, Va., December 1, from heart disease, aged 44.

Adolph Buettner, M.D. College of Physicians and Surgeons, Chicago, 1886; died at his home in Chicago, December 18, from paresis, aged 55.

Henry R. Richard, M.D. University of Minnesota, Minneapolis, 1900; of Waterville, Wash.; died in Wenatchee, Wash., December 22, aged 36.

William Warder McCarty, M.D. Miami Medical College, Cincinnati, 1878; of Canaan, Ind.; died in Madison, Ind., December 15, aged 82.

John R. Holifield, M.D. University of Louisville, Ky., 1870; died at his home in Mayfield, Ky., December 12, from pneumonia, aged 75.

George Cheeseman, M.D. Jefferson Medical College, 1866; died at his home in Library, Pa., December 24, aged 82.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

J. LAWRENCE HILL, A.M., D.D., M.D.,

Another Consumption Cure Fake in Jackson, Michigan *

A few weeks ago we devoted some space to a vicious consumption cure fraud, Lung Germine, hailing from Jackson, Mich. A similar concern in the same town is conducted by one J. Lawrence Hill, who sometimes writes after his name the letters "A.M., D.D., M.D." As in most mail-order medical concerns, the "doctor" in whose name the concern is operated is really a very unimportant part of the company. "J. Lawrence Hill, A.M., M.D.," is the corporate name of the company that has recently been re-incorporated with an authorized capital of $5,000, the stock being held in $10.00 shares. There are apparently three stockholders: (1) F. L. Childs, Cleveland, O.; (2) F. C. Badgley, Jackson, Mich., and (3) J. Lawrence Hill, A.M., D.D., M.D. Of the 500 shares representing the entire stock, Hill is said to hold but 50 and the balance of 450 is said to be divided equally between Childs and Badgley. Evidently Childs and Badgley furnish the money, while Hill furnishes the "degrees"—and incidentally keeps the business from being illegal as well as immoral.

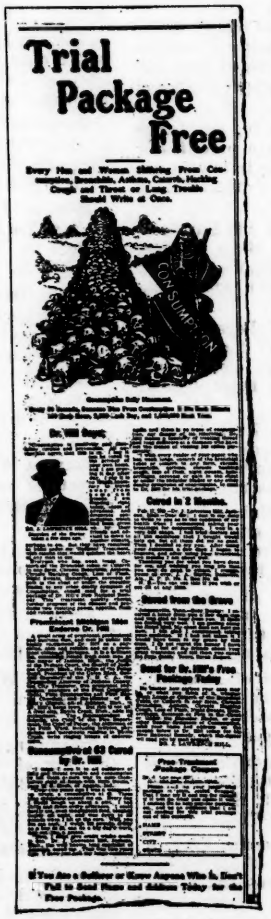


Fig. 1.—A typical advertisement of the Hill consumption cure, from the St. Joseph (Mo.) *News-Press*.

A COMMUNITY OF INTEREST

When the company was first incorporated in 1906, there were two other stockholders in addition to Badgley and Childs, viz., R. A. Oliver and H. H. Mallory. Whether the members of this quartet have any qualifications for "curing" consumption, may be decided by the reader, from the following information:

Childs, F. L.: Vice-president of the Hill Consumption cure concern; is said to have been on the road previously for the Upjohn Company; to be at present sales-agent for a Cleveland iron company and to be proprietor of a mail-order "constipation cure"—"Pomola"—in Kalamazoo, Mich.

Badgley, F. C.: Secretary and treasurer of the Hill consumption cure concern; is said to be: a member of the law firm of Badgley & Badgley, Jackson, Mich.; president of the concern operating the "Magic Foot Draft" fake (also of Jackson) and president of a "pile cure" mail-order company, the "Dr. Van Vleck Company" (also of Jackson).

Oliver, R. A.: Ex-secretary and treasurer of the Hill consumption cure concern; is said to own one-fourth interest in the "Magic Foot Draft" concern, his name appearing in the advertising done by the British branch of that concern. Incidentally, we understand that the London branches of the Van Vleck pile cure and the Magic Foot Draft concerns occupy the same offices.

Mallory, H. H.: Ex-vice-president of the Hill concern; advertising agent; is said to be vice-president of the "Magic Foot Draft" company, also vice-president of the Van Vleck pile cure concern.

A study of the foregoing will help make clear a fact that has been previously referred to in these columns, viz., that Jackson, Mich., for a city of its size, is particularly well represented in the line of medical fakes, doing, not merely a national, but an international business. It shows, too, the community of interest between the various mail-order medical concerns in Jackson.

HILL'S METHODS

The methods by which J. Lawrence Hill, A.M., D.D., M.D., conducts the business which bears his name differ in no essential respect from those pursued by other mail-order "consumption cure" fakers. First, of course, there are the advertisements (Fig. 1) which appear in such periodicals and newspapers as are not above sharing the blood-money of the consumption-cure ghouls—a type of journalism, we are glad to say, that is yearly becoming scarcer. Second is the series of follow-up letters, so prepared as to simulate personal communications, but which are really printed, even to the signature of the "physician" in charge. The only part of each letter of this series which has any remotely personal element in it is the name and address of the victim to whom it is addressed, these being "filled in" by means of a typewriter in the same style of type and color of ink as that used in printing the letters. Third, is the bait of a "trial treatment," of which more later. Fourth, the inevitable testimonials—the *sine qua non* of the quack.

THE TRIAL PACKAGE

In his advertisements, Dr. Hill says he "cures consumption" and will send a trial package to all who will send 20 cents "to help pay for packing," etc. Those who answer his advertisement are sent a four-page circular letter, the first of his follow-up letters, designated, for the convenience of Hill's mailing force, "E 1," together with the "trial package." The package consists of a collapsible tube and three small cardboard boxes, all contained in a larger cardboard box. The three small boxes are labeled, respectively: "Globules," "Systemic Wafers" and "Laxative Tablets," while the tube is labeled "Plasma." Cursory examination shows:

Plasma: A white ointment smelling strongly of wintergreen. The consumptive is directed to "rub in the upper part of chest and between shoulders." He is told that "the ingredients of plasma are quickly absorbed by the blood, thus the plasma helps to destroy the bacilli or germs in the blood . . ."

Globules: Nine flexible capsules each containing an oily liquid, having the odor of guaiacol. Floating in the liquid is a small pill. One globule to be taken three times a day. They are claimed to "help supply the blood with what it needs to make strong fighting corpuscles . . ."

Systemic Wafers: Small pinkish-white tablet triturates, having a sweet taste. To be taken at 10 a. m., 3 p. m. and 7 p. m., and are said to "act specifically on the . . . lungs, imparting strength to them . . ."

Laxative Tablets: Small chocolate-coated tablets. Says Hill: "They are wonderfully [*sic*] bowel regulators, act nicely on the liver and are a triumph in the art of chemistry, being prepared by one of the best known chemists and pharmacists."

THE FOLLOW-UP SYSTEM

The first letter of Hill's "follow-up" series states, among other things:

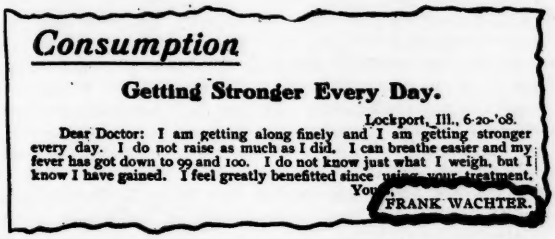
> "My purpose in sending you my trial treatment is to prove to you . . . that it is not necessary for you . . . to spend a good deal of money in following a complicated mode of living . . ."

This statement and the fact that Hill claims in his preliminary advertising that the use of his "treatment" renders

* A reprint of this matter may be had in pamphlet form; price, 4 cents. The pamphlet contains additional data of interest as well as several additional illustrations.

it unnecessary "to materially change the patient's mode of living," and the further fact that in none of his series of follow-up letters does he recommend the open-air method of treatment, make plain the viciousness of this particular "consumption cure." As every reputable physician knows, the hardest task that confronts him, in his attempt to help the consumptive, is to get the patient to consent to put up with the inconveniences and minor hardships inseparable from the only rational treatment of the disease—the out-door life. The average consumptive believes that the physician should be able to give him "medicine" that will "cure" him—a belief that is as fallacious as it is dangerous and yet one that Hill and most consumption cure fakers play on.

After he has persuaded the victim to part with his $10 for the "first month's treatment," however, Hill sends a pamphlet entitled "Rules for Living," in which the "mode of living"



Consumption

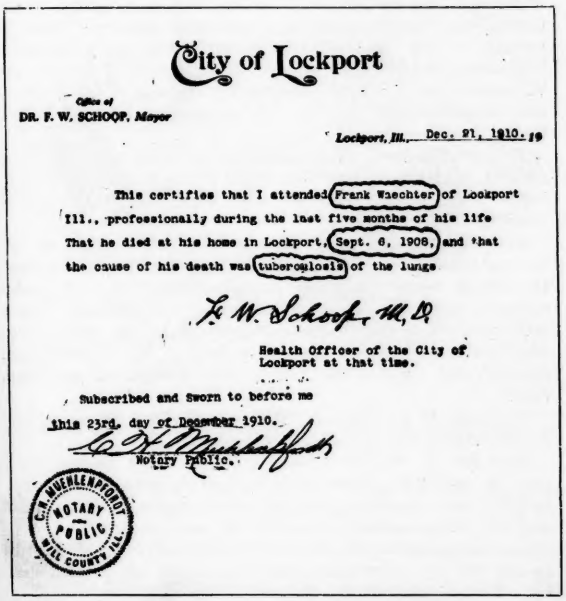
Getting Stronger Every Day.

Lockport, Ill., 6-20-'08.

Dear Doctor: I am getting along finely and I am getting stronger every day. I do not raise as much as I did. I can breathe easier and my fever has got down to 99 and 100. I do not know just what I weigh, but I know I have gained. I feel greatly benefitted since using your treatment.

Yours,

FRANK WACHTER.



City of Lockport

Office of
DR. F. W. SCHOOP, Mayor

Lockport, Ill., Dec. 21, 1910. 19

This certifies that I attended Frank Waechter of Lockport Ill., professionally during the last five months of his life That he died at his home in Lockport, Sept. 6, 1908, and that the cause of his death was tuberculosis of the lungs

F. W. Schoop, M. D.

Health Officer of the City of Lockport at that time.

Subscribed and Sworn to before me this 23rd. day of December 1910.

Notary Public.

C. H. MUELLENHOFF NOTARY PUBLIC WILL COUNTY ILL.

Fig. 2.—The upper illustration is a reduced photographic reproduction of a Hill testimonial. The writer of it died three months after giving it. Hill continued to use the testimonial, however, for two years longer. The lower illustration is a photographic reproduction of a certified statement regarding the death of the writer of the testimonial.

recommended is certainly as "complicated" as any ever suggested by a reputable physician. It is evident, then, that the claims made—both directly and by inference—in the follow-up letters and advertising by which the prospective patient is led to believe that Hill's "treatment" is all that is necessary to cure consumption, is merely a catch-penny device to ensnare the victim. It is equally evident that if good results ever follow Hill's "treatment," they are due, not to the drugs he sends, but to the mode of living adopted by the patient.

SLIDING SCALE OF FEES

With the first letter and the "Trial Treatment" comes a symptom blank—the "Three Day Test Sheet"—which the patient is expected to fill out and return with the order for the first month's treatment. Much, also, is made of the wonderful virtues of Hill's "truly wonderful appliance for lung development and air sterilization" called the "Ozonol Lung Developer," which is sent "free" to those who order the first month's treatment. The price first asked for one month's treatment is $10. Should the patient not "bite," the second follow-up letter—number "E 1 a"—comes just one month later. This "letter" dilates again on the "Ozonol Developer," for which Hill claims:

> "The air in passing through this Developer is . . . more heavily charged with oxygen than if breathed otherwise . . ."

The second letter still gives the price of the treatment as $10. Continued silence on the part of the patient brings—thirty days later—follow-up letter number "E 1 b." In this, the third letter of the series, the poor victim is told of those who have "been laid away among the Innumerable Dead" because they did not send for the Hill treatment soon enough.

> "You know what is awaiting you, if you delay ordering my treatment."

The third letter brings the price asked down to $5—the balance to be paid "after you are cured, or whenever you are able, just as you see fit." One month later, if the patient still wisely continues to hold on to his money, comes the fourth follow-up letter, number "E 2 a." This letter is chiefly devoted to Hill's laudation of himself and his work. For instance:

> "I am a physician of many years' practice."
> "I am widely known for the good I have done in treating patients afflicted with consumption . . ."
> "The remarkable success I have had in curing these troubles certainly warrants any man or woman, no matter how seriously affected . . . to feel absolutely certain that if there is any one man living who can save them, I believe I can do it."
> "I do not say this to boast, but because it is true."

The price, in the fourth letter, still remains at $5. Should this fail to bring an order within a month, the fifth and last of this series of follow-up letters comes, number "E 3 a." This represents Hill's final attempt to "land" his victim, and the identical "treatment" for which $10 was asked in the first two letters is now offered for $3.20: "You shall never be asked for the balance."

THE "TREATMENT"

If the price of a "treatment" is sent—either $10, $5 or $3.20, according to the ease with which the victim bites—back comes another form letter, "Tr. 1," commencing: "Your remittance for treatment just to hand, for which please accept thanks." The amount of the remittance is not mentioned, so presumably this "letter" may be used in acknowledging the receipt of any of the "fees" which Hill's sliding scale calls for.

The "treatment" itself seems to differ in no respect from the "trial treatment" sent previously, except in size. The "Globules," the "Systemic Wafers," the "Laxative Wafers" and the "Plasma"—all are there, in larger quantities, but with similar directions for their use. In addition to these there is the "New Ozonol Lung Developer," about which so much is said in Hill's follow-up letters and other advertising matter. The "lung developer" consists of a cigar-shaped piece of hard rubber about 3½ inches long. One end of the "developer" is hollow and the cavity is loosely packed with cotton saturated with the "ozonol" fluid, a small vial of which accompanies it. The consumptive is instructed to place the charged end of the instrument in one nostril, close the other and inhale deeply; when the lungs have been filled the patient is to place the opposite end of the "developer" in the mouth and "blow the air out from the lungs."

The Association's chemists examined the various preparations sent by Hill in one of his $10 "treatments," and their report follows:

LABORATORY REPORT

A box labeled "Dr. J. Lawrence Hill's Rational $10 Three-Fold Treatment for Consumption, Asthma, Bronchitis, Catarrh and all Diseases of the Throat, Nose and Lungs," and containing several forms of medication was submitted to the

Association laboratory for examination. The "treatment" consisted of (1) a box of sealed elastic gelatin capsules, containing a liquid in which floated a pill, and labeled "Dr. J. Lawrence Hill's Globules"; (2) a small box of pinkish tablets labeled "Dr. Hill's Systemic Wafers"; (3) a small box of chocolate-coated tablets—"Dr. Hill's Laxative Tablets"; (4) a collapsible tube of a white ointment or salve labeled "Dr. J. Lawrence Hill's Plasma"; (5) a small vial (less than 2 drams) containing a brown liquid and bearing on the label—"Dr. J. Lawrence Hill's Antiseptic and Germ Killing Ozonol"; (6) a black hard-rubber inhaler, and (7) a small box containing a tuft of cotton.

The "Globules": These were opened and the liquid and pill examined individually. The pill after being freed from the liquid was treated with hydrochloric acid, resulting in an evolution of hydrogen with a characteristic odor, such as is given off on treating iron with hydrochloric acid. On triturating one of the pills and washing away the lighter insoluble matter, a residue of shining metallic scales remained, which, when dissolved in hydrochloric acid, emitted hydrogen gas as when the entire pill was treated. The resulting solution responded to tests for iron. On extracting the pills, from an alkaline medium, with ether, a bitter white crystalline substance was obtained, which responded to general alkaloidal tests, viz., it yielded a brown precipitate with iodin solution and a white precipitate with mercuric potassium iodid solution. Further examination showed that the substance gave strong reactions for quinin and less distinct ones for strychnin. No arsenic or other metals were found. From the results of the tests made it was assumed that the pills were composed essentially of iron (metallic), quinin and strychnin. The liquid in the globules was oily and possessed an odor of guaiacol. It was partially soluble in alcohol and completely soluble in ether and in chloroform. Alcohol extraction of the oil left a light yellow oil, practically odorless and tasteless; the portion extracted with alcohol responded to tests for guaiacol. The liquid portion of the "globules" then appeared to be a solution of guaiacol, or guaiacol-like body, in some bland oil.

The "Systemic Wafers": These were practically completely soluble in water, yielding a slightly turbid solution. They were sweetish in taste and slowly soluble in the mouth, resembling milk sugar. Tests for milk sugar indicated its presence. Further examination indicated the absence of metallic constituents, such as arsenic, antimony, mercury, iron, manganese, zinc, magnesium or calcium. Tests for alkaloids indicated the absence of alkaloids, such as atropin, strychnin, etc., while tests for such substances as iodids, bromids and salicylates indicated their absence. From the examination it was concluded that the tablets were essentially milk sugar.

The "Laxative Tablets": These were found to contain a substance having a faint, peculiar odor and a very bitter taste. Tests for arsenic and other heavy metals indicated their absence, and the tablets did not respond to tests for alkaloids. The bitter taste and the use for which the tablets were intended, pointed to the possible presence of aloin or aloes, and appropriate tests proved that aloin or aloes and a small quantity of starch were present. From the tests made, it was assumed that the tablets were principally aloes or aloin with some starch.

The "Plasma": This substance was found to be a white ointment or salve with a strong odor of oil of wintergreen. When subjected to steam distillation the distillate was found to contain material having the odor of wintergreen, while the residue in the distillation flask possessed an odor resembling oil of cloves. The "plasma" when extracted with ether yielded a substance which had the properties of stearic acid and the portion soluble in water had the properties of a stearic acid soap. The substance also contained a small quantity of a gummy substance resembling tragacanth. Tests indicated the absence of metals and alkaloids. It was concluded that the "plasma" was essentially a stearic acid ointment containing as its chief ingredient oil of wintergreen and small quantities of other oils.

"Ozonol": This liquid possessed an aromatic odor and was soluble in alcohol, ether and in chloroform, but insoluble in water. When extracted successively with various solvents fractions were obtained which resembled such essential oils as sassafras, peppermint and eucalyptus. No alkaloids or other potent drugs were found. From the above properties "Ozonol" was assumed to be a mixture of aromatic oils resembling sassafras, peppermint and eucalyptus.

The chemists' report thus confirms what has been said over and over again, viz., that quacks and medical fakers use either absolutely worthless preparations or else endow well-known and commonly used drugs with virtues that they do not possess. To suppose that rubbing an ointment of tallow and wintergreen on the chest would cure consumption is as foolish as to believe that taking sugar tablets internally or that sniffing the vapors of oil of peppermint or sassafras would accomplish the same end.

The fact is the drugs sent out by Hill will not cure consumption, either in the first, second or any other stage of the disease. That they may easily upset the digestive apparatus of the person taking them is evident to any physician, and the danger of such a result becomes apparent when it is remembered that the chief hope of the consumptive is an unimpaired ability to digest food.

TESTIMONIALS—TWO KINDS

With each of Hill's follow-up letters testimonials are sent. These are of two kinds: One kind purports to come from "patients" telling how they were "cured"; the other emanates from "prominent business and professional men," and are printed to show Hill's "standing, both as a man and physician." Of the latter, four of the testimonials are purely personal and not professional. The use Hill has made of them, however, practically means that they are an endorsement of his "treatment." Hill is one of those pious humbugs who work their church affiliations to the limit in the exploitation of fake "cures." It is said that he used to be in the ministry, and that even after opening his fakery at Jackson he was a pretty regular attendant at the weekly meeting of the Jackson Ministerial Association, where he not only participated in the discussions, but occasionally contributed papers. Even as recently as Dec. 18, 1910, a Jackson newspaper contained a "Christmas Sermonette" by John L. Hill entitled "Christ the Wonderful One." These incongruous mixtures of pseudo-piety and quackery—and they are not uncommon—must make the thinking marvel and the religious grieve.

The four pastors, whose endorsements Hill has used, were written to and their attention called to the use Hill was making of their letters. Here are some excerpts from the replies received:

Says Rev. R. E. Macduff: "I knew then [at the time the letter was written] nothing about his quack nostrum, his method, the fraud being practiced on the sick. . . . I desire earnestly that it shall be understood by the American (medical) profession that I absolutely repudiate the letter given which is being used as never intended. . . . I have been deceived and imposed on, like a large number of good men here."

Says Rev. F. W. Fraser: "I advised Dr. Hill and asked him to discontinue the use of the testimonial."

Says Rev. R. W. Van Kirk: "I did not know he was going into the mail-order business when I wrote the commendation, and am quite unwilling that he should make merchandise in any way of my name."

Says Rev. Bastian Smits: "I have requested Dr. J. L. Hill to cut out my recommendation from all of his printed matter. He has honored this request."

SOME MEDICAL ENDORSEMENTS

Of the other miscellaneous testimonials from "prominent . . . professional men" is one from S. M. Angle, M.D., of Jackson, Mich. In appraising the value of this testimony, it should be borne in mind that Dr. Angle is at present "consulting physician" for the other Jackson "consumption cure" fraud, the Lung Germine Company; furthermore, he is a "women's specialist" of the usual advertising type, and within the past few weeks the newspapers that carry his advertisement have chronicled his arrest on the charge of selling cocain to 17-year-old boys. Apropos of mail-order medical men writing testimonials for each other: A fulsome puff of the Van Vleck "pile cure"—another Jackson industry—is credited by that concern to Dr. J. L. Hill. Another of Dr. Hill's endorsers is Dr H. F. Wertz of Jackson. Wertz advertises to "cure with my home treatment" the "worst cases" of ulcer of the stomach and many other conditions too numerous to be given. Dr. W. T. Bobo, a "goiter cure" advertiser of Battle Creek, Mich.,

adds his mite of testimony to the sterling value of J. Lawrence Hill, A.M., D.D., M.D. In Figure 3 we reproduce some of the advertisements of this trio.

PATIENTS' TESTIMONIALS

Testimonials from patients, as we have shown repeatedly, mean little. Those that are honestly given come from one of two classes of individuals: (1) People who are really dangerously ill, and who, in the optimism that every new "treatment" inspires, write praising the "cure"; (2) those who, having nothing seriously the matter with them, naturally recover from the passing indisposition and credit their recovery to whatever they may have taken. This may be laid down as an axiom: No sufferer from tuberculosis ever got well from the "treatment" sent out by mail-order consumption cure quacks.

We investigated some of the cases of consumption in patients whom Hill claims, either directly or by implication, to have cured. Space will not permit us to do more than give very briefly the result of the inquiries. Following are the names of individuals whose testimonials are given as samples of the "cures" of consumption which Hill achieves:

Frank Wachter, Lockport, Ill.: Died Sept. 6, 1908 (Fig. 2). The testimonial, however, was still doing duty in the latter part of 1910!

Nancy Townesly, Shawnee, Okla.: No one of that name could be found. The city directories for the past six years failed to show the name.

Otto Bruce, Hartford, Wis.: Died March 5, 1909. Testimonial still used in the fall of 1910.

Fig. 3.—Photographic reproduction (reduced) of the advertisements of some of Hill's professional friends; these gentlemen testified to his sterling worth.

Miss Young, South Haven, Mich.: A South Haven physician writes: "In my opinion, judging from my observations of her for the last ten years, she has never had tuberculosis. At all times she has presented the appearance of a strong healthy girl."

Miss Ida Schultz, Amherst, Wis.: Died Aug. 21, 1909. The testimonial still lives.

Mrs. Mary Hawkins, Cleo, Okla.: A physician in Cleo writes: "The only Mrs. Hawkins in this vicinity is said, by those who have known her many years, to be a strong healthy woman, with no suspicion of tuberculosis."

HILL GROWS WARY

So much for the testimonials. Dr. Hill, within the past few months has grown wary. Like every other consumption "cure" exploiter, he has found that testimonials prove boomerangs. He now, therefore, omits the names and addresses on the testimonials sent out, but states that they "will be given you on request." One of his latest sheets of testimonials consists of answers to queries mailed to a number of his "patients." The queries are alleged to have been sent by "an anxious seeker after health," and were signed "F. L. C." Is it possible that Mr. F. L. Childs, the vice-president and owner of nearly half of the stock in the Hill concern and alleged proprietor of a Kalamazoo "constipation cure" is the "anxious seeker after health"—and testimonials?

HILL'S EDUCATIONAL QUALIFICATIONS

Just a word in closing about J. Lawrence Hill, A.M., D.D., M.D. He is a graduate of the Chicago Homeopathic Medical College, 1894. In his advertisements he claims to be a graduate of Edinburgh University, Scotland. In 1896 Hill was practicing in Battle Creek, Calhoun County, Mich. In February, 1896, he filed his physician's certificate, as the law requires, with the county clerk of Calhoun County, and, according to the court records, he at that time *stated under oath* that he was "a graduate of Edinburgh Medical College, Scotland." Inquiry made of the authorities of the University of Edinburgh brought the following reply from the registrar of the university:

> "*The name* J. Lawrence Hill *does not appear in any of our lists of graduates*, but we find the following entries in Matriculation Records (a search having been made for the period 1856 to 1894):
>
> "'1877-8 John Lawrence Hill, Pontypool, age 26, Arts 1st.'
>
> "'1878-9 J. L. Hill, Edinburgh, age 27, Arts 2nd.'
>
> "No other entry appears which gives the slightest indication of bearing on the case."

Which is correct? Hill's statement or the registrar's? If the latter, does it place Hill in the serious position of having committed perjury? In any case it seems to be a matter into which the Michigan authorities may well look.

CONCLUSIONS

To sum up: What does this investigation of the Hill "consumption cure" show?

First: The Hill consumption cure is chiefly owned and controlled by men whose only qualification for treating disease is that they are business men financially interested in other medical fakes.

Second: The claims made in the advertisements, either directly or by implication, that the Hill remedies will "cure" consumption are cruel and heartless falsehoods.

Third: The methods employed to capture victims, by means of speciously worded circular letters disguised as personal communications, are an imposition, if not an actual fraud, on the ignorant or credulous.

Fourth: The drugs sent out by Hill as a "trial treatment" are worthless as a cure for consumption.

Fifth: In printing endorsements of himself, which Hill received from ministers of the gospel, he grossly abused the confidence of men who did not know the use to which their letters were to be put.

Sixth: The testimonials from physicians which Hill publishes have been shown to emanate in some cases from men who themselves are employed in exploiting medical fakes.

Seventh: The claim Hill makes of being a graduate of Edinburgh University has been shown to be as false as the claims made for the nostrum he exploits.

Can a much more disgraceful business than the various "consumption cure" humbugs be imagined? Founded on fraud, maintained by deceit, perpetuated by falsehood—the sick are exploited to pay dividends on corporate quackery. How much longer will this outrage on the unfortunate victims of the White Plague be tolerated? If not for humanitarian reasons, then for its own protection, at least, society should demand that such cruel frauds be suppressed. Their existence is a menace to public health and a disgrace to modern civilization.

CALMINE

New Names for Old Drugs

"Calmine, the new Hypnotic," is another example of the ingenuity of the exploiters of proprietary preparations in coining new names for old drugs and the recklessness with which exploiters herald forth renamed remedies to the profession and the public as new and wonderful discoveries.

This is what the promoters, sustained by a calm confidence in the credulity of the profession, have to say:

> In the medical circles throughout the country a good deal of interest and even enthusiasm over this new hypnotic is noticeable.

Very few drug products have attracted so much attention as this one.

A really satisfactory hypnotic and sleep-inducer, which Calmine certainly seems to be, has been awaited expectantly for many years. Of course, we have always had agents of this sort—a new one has come out at frequent intervals—but none of them have "filled the bill"; they have been prescribed only because there was nothing better to be had.

Now this new and wonderful discovery is nothing but Veronal-sodium (sodium diethyl-barbiturate) under another name. It is the sodium salt of the more or less favorably known hypnotic, Veronal (diethyl-barbituric acid). It is also sold as Medinal, and differs from Veronal only in that the combination with sodium has made it more readily soluble, and thus, it is claimed, its absorption is more prompt. Veronal is protected abroad by a trade-mark and in this country by a patent, and this, undoubtedly, is responsible for the introduction of this sodium salt under these fanciful names, because Veronal could not be sold without infringing on the patent. This in turn induced the manufacturers of Veronal, in self protection, also to put the sodium salt on the market, and now we have it under the name of Calmine. This probably is only the beginning; soon we may look for it under a host of other names and the usual result will follow: thoughtless physicians who have had poor results with it under one name will try it under others. Or worse still, physicians will thoughtlessly combine Veronal with Calmine or with Medinal in the same prescription, thus giving a dangerous dose.

Correspondence

The Medical Profession Must Change Its Tactics

To the Editor:—He who is not a frequent visitor to radical clubs, does not come in contact with newspaper men, with "new thoughters," and does not read regularly the numerous naturopathic, health culture and physical culture journals, and other allegedly advanced publications, can have no idea how the medical profession is ridiculed, maligned, lied about, misrepresented and "knocked" on every possible occasion.

Physicians are pictured as ignoramuses, grafters, butchers, anxious to operate whether there is a necessity or not, "drug dopers," etc. The medical profession is denounced as a trust and monopoly, and any attempt of physicians to organize or to pass laws protecting the public health is characterized as an attempt at class legislation, a desire for special privileges, inspired by our fear of the competition or by fear of the superior skill of their irregular rivals.

And the average physician who has not given the matter any thought has no idea what effect these unceasing slanders and persistent lies have on the public mind, how suspiciously a large part of the public is beginning to look at the medical profession, how physicians are losing the confidence of the people, how the ground is slipping from under their feet.

As an illustration one need only mention the reception that has been accorded to the suggestion of a federal department of health. The motives that actuate physicians and the objects of such a department were at once misrepresented, the people were made to believe that their freedom to choose a medical adviser was threatened, the forces of reaction and obscurantism, masquerading in some instances under the guise of liberalism, were quickly marshalled and in a short time a society was organized, which now claims a membership of 150,000.

Physicians themselves are to blame. When the irregular, fantastic and pernicious cults began to make their appearance, they paid no attention to them. They thought that these cults amounted to nothing, and would soon dry up and shrivel away of themselves. When the malicious attacks began to appear in the various quack publications, physicians remained silent. They considered it *infra dignitatem* to pay attention to them, and thought that the public would have no difficulty in seeing through their falsity and meretriciousness.

This long and patient inactivity has been due to the false idea that the truth will always triumph and error is bound to die. Yes, eventually. But if error is allowed to grow and spread unhampered, while those who see the truth will not take the trouble to proclaim it and expose the error, then it may take centuries before the correctness of the truth and the falsity of the error will be perceived.

In this as in every line of human activity prevention is immeasurably superior to cure, and the right way to fight is not to permit it to get a firm foothold. Error and superstition are hard things to uproot after they have attained the dignity of a universal belief.

It is time that the medical profession change its tactics and assume a wide-awake, militant attitude. It is time that physicians actively attack error wherever it shows its head. By reading papers before lay audiences, by participating in discussions, by writing to the newspapers, by refuting the false arguments of false prophets wherever they appear, they can do much toward destroying the influence of the quacks and the irregular cults. In short, medical men must throw off their exclusiveness, and must go out to the public and take it into their confidence.

The truth is with physicians—that they know; only they must not hide their knowledge under a bushel, and expect that without any effort on their part its light will penetrate into the darkest recesses of ignorance and quackery.

W. J. ROBINSON, M.D., New York City.

Reporting the Case of Another

To the Editor:—I wish to call attention to the reporting of cases that do not belong to the one reporting them, and to protest against the practice. THE JOURNAL (Dec. 31, 1910, p. 2296), contains an article entitled "A Case of Diaphragmatic Hernia." The patient referred to entered my service at Cook County Hospital, Chicago, and was operated on by me for obstruction of the bowels. The case report has been published without my knowledge or consent.

LAWRENCE RYAN, Chicago.

[A proof of the above letter was sent to Dr. Bamberger, who replies:]

To the Editor:—In reply to Dr. Ryan's letter the full facts of the matter are all that I want to state. On July 24, 1910, the patient in question entered the surgical service of the Cook County Hospital, of which I was senior resident surgeon, and Dr. Ryan, staff surgeon. I made the diagnosis of intestinal obstruction, and urged immediate operation. With Dr. Ryan, I participated in the operation, and I had full charge of the entire tedious postoperative treatment. Six months elapsed and no report of the case had been made, and I did not think that any objection would be made to my reporting it, since I was so closely connected with it. If I have unintentionally slighted Dr. Ryan, I take this means of asking pardon, and I am most willing to have Dr. Ryan, if he so desires, be given his share of credit in the report of the case. You will favor me by publishing this letter in the JOURNAL.

ARRIE BAMBERGER, Chicago.

Anesthesia in Traumatic Surgery

To the Editor:—The discussion under the above heading (THE JOURNAL, December 24, p. 2226), is a matter of very great importance to the surgeon, and has a bearing on the little-understood condition designated as shock. This condition, I believe, is sometimes misnamed, and does not receive the attention it should at the hands of the investigator.

In my earlier years I used chloroform almost exclusively, and my experience agrees with that of Dr. Lathrop, in that many patients showed improvement, as to shock, shortly after the anesthetic had been started. This occurred oftener with chloroform than with ether. I nearly always operated at once, without waiting for shock to pass off. This was done on the theory that the general anesthetic should relieve the shock, by narcotizing the receptive apparatus. Crile's nerve blocking has the same end in view, differing only by narcotizing the nerve, to prevent transmission of the painful impressions; and as is well known only large nerves may be thus blocked, while many smaller nerve fibers, not being blocked,

may to some extent at least defeat this object. Given a traumatic injury, with coincident loss of blood and the patient apparently in shock, how much of his condition is due to loss of blood, and how much to true shock?

A case in point: I have now a convalescent patient who was brought into the Allegheny Heights Hospital in an unconscious condition; leg was badly crushed, pulse small, rapid and thready. I amputated the leg without an anesthetic, which procedure did not add at all to the shock, because loss of blood was a greater factor in this case than pure shock. This is a point in which I hope this communication may arouse some interest.

On a purely theoretical basis one has difficulty in understanding just how chloroform or ether could add to shock. They are both supposed to owe their anesthetic action to their ability to dissolve out lecithin from the brain cells, the details not being well understood. Practically, the fact remains, that too much anesthetic is a bad thing. When the times comes, that the same care is exercised in the seleetion of skilled anesthetists, and the same position given them, as to responsibility, etc., that is attached to the surgeon, then we may expect better results, not only in traumatic surgery, but in all surgery. IRVIN HARDY, M.D., Davis, W. Va.

The Culture of Cancer Cells in Vitro

To the Editor:—In THE JOURNAL (Oct. 15, 1910, p. 1379; Oct. 29, 1910, p. 1554, and later), Carrel and Burrows have published reports of very interesting experiments on the growth of normal and pathologic tissues outside of the body and on the culture of cells.

I desire to inform the American medical public that on Dec. 10, 1909, I communicated to the Royal Medical Academy of Turin (*Gior. d. r. Accad. di med. di Torino*, 1909, No. 12) that I obtained in a semihardened horse-serum medium a development *in vitro* of mouse adenocarcinoma fragments. A second report on the same subject was made on March 11, 1910, and the results of several experiments were published in the Italian medical periodical *Pathologica* (Oct. 15, 1910). In the first communication I reported that small fragments of cancer placed in the serum had enlarged and changed their form after from ten to eighteen days and that at the microscopical observation a number of well-preserved elements and of karyokinetic features were seen. In the second report I was able to confirm this fact and to report karyokinetic features demonstrated after the tissues had been seventy days *in vitro* (37 C.). In the note published in the *Pathologica* I wrote that fragments kept under those conditions were really alive, because they could be grafted into fresh animals.

I am very glad that Drs. Carrel and Burrows have independently obtained the same results that I obtained and have been able to extend their experiments so as to get cultures in series. I am going on with my researches, from which I hope I shall obtain new results that may extend those I have already obtained and confirm the American observations on the possibility of the transplantation in series.

DR. GUIDO VOLPINO, Professor of Bacteriology.
Turin University, Turin, Italy.

Work in Treatment of Neurasthenia.—In treatment of chronic neurasthenics who are strong enough to undertake some employment, work of some sort should be employed regularly and systematically. It is desirable to get out of the channel in which the patient has lived and to start him in some new occupation. Individuals differ greatly in the amount of work they are able to perform, and it is quite as important to grade the amount of manual labor as the dosage of any remedy that is administered. Whether we employ indoor or outdoor work, and whether it be for diversion or as a training toward a means to gain a livelihood, the main object is "to train the patient's mind to run naturally in a different channel. It is not so much the work as the way one inspires the person to take it up. That form of work, however, is best which interests the patient and leads him on to more and more thought of things outside himself."—W. N. Thompson, in *Yale Medical Journal.*

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MEDICAL JOURNALS OF LATIN AMERICA

To the Editor:—Kindly submit to me the names of South American medical journals, preferably of Brazil or Argentina.
G. H. REINHARDT, St. Louis.

ANSWER.—The following are some representative South American, Mexican and Cuban journals:

Revista de la Sociedad médica argentina. Buenos Aires, Argentina. Published three times a year. Address E. Spinelli, 737 Callao, Buenos Aires, Argentina.

Semana médica. Subscription $5.00. Weekly. Address Emilio Spinelli, 737 Callao, Buenos Aires, Argentina.

Brazil-Médico. Subscription 20 milreis (about $11), including postage. Weekly. Address Dr. Bulhoes Carvalho, 140 Rua do Rosario, Rio de Janeiro, Brazil.

Gazeta médica da Bahia. Subscription 12 milreis (about $6.60). Address Dr. Oscar Freire, Rua do Garcia n. 190, Bahia, Brazil.

Repertorio de medicina y cirugia. Subscription $3. Address Dr. J. M. Montoya, Apartado 102, Bogota, Colombia.

Crónica médica. Price 6 soles (about $3.00), including postage. Semi-monthly. Address Dr. E. Bello, Apartado 50, Lima, Peru.

Revista médica del Uruguay. Subscription $5.00. Monthly. Address L. Danieri, Calle Arapey 106, Montevideo, Uruguay.

Memorias do Instituto Oswaldo Cruz. Published at irregular intervals. Address Directeur de l' Institut Oswaldo Cruz, Caisse postale 926, Manguinhos, Rio de Janeiro, Brazil.

Revista de medicina y cirugia. Semi-monthly. Subscription $4.50. Address Dr. J. F. Arteaga, Apartado 155, Havana, Cuba.

Prensa médica. Monthly. Address Dr. Enrique Nunez, Teniente Rey 41, Havana, Cuba.

Crónica médica méxicana. Subscription $2. Monthly. Address Dr. Enrique L. Abogado. Plaza de San Juan, num. 38, City of Mexico.

PERIODICALS ON OBSTETRICS

To the Editor:—Please give me the names of some good American and British journals on obstetrics and inform me where subscription should be sent, etc.
WALTER HIGGS, M.D., Eveleth, Minn.

ANSWER.—*American Journal of Obstetrics and Diseases of Women and Children.* Monthly: subscription $5. Published by Wm. Wood & Co., 216 York Street, York, Pa.

Surgery, Gynecology and Obstetrics. Monthly; subscription $5. Published at 103 State Street, Chicago.

Journal of Obstetrics and Gynecology of the British Empire. Monthly; subscription in United States, 26 shillings, including postage. Published by Sherratt & Hughes, 33 Soho Square, West, London.

PROPORTION OF SODIUM GLYCOCHOLATE AND TAUROCHOLATE IN BILE

To the Editor:—In what proportion do the bile salts sodium glycocholate and taurocholate exist in bile?
F. S. SCHMIDT, Roxbury, Mass.

ANSWER.—The proportion of taurocholate to glycocholate is variable. According to the analyses of Hammersten, it varied between 1 of taurocholate to 2.07 of glycocholate and 1 of taurocholate to 14.36 of glycocholate. The total amount of bile salts varied in three analyses between 9.04 and 18.240 per thousand. In the bile of animals the proportion is also generally variable. In the carnivora usually sodium taurocholate is the predominant bile salt. In many of the herbivora the glycocholate predominates, and in swine it is found almost to the exclusion of the taurocholate.

POTASSIUM CYANATE AND THE BLOOD

A correspondent wishes the reference to an article, which he thinks was published in THE JOURNAL some time ago, reporting experiments on dogs to ascertain the action of potassium cyanate on the blood. We fail to find such an article in the index. The drug was perhaps mentioned incidentally in the text, but was not considered of sufficient importance to be named in the title. Perhaps some of our readers can render assistance.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Jan. 7, 1911.

Woodall, Wm. P., captain, left Ft. D. A. Russell, Wyo., on 30 days leave of absence.

Banister, John M., col., is retired from active duty.

Barney, Chas. N., major, is retired from active service.

Davidson, Wilson T., captain, granted leave of absence for three months.

Krebs, Lloyd Le R., captain, ordered to report to Lt. Col. James D. Glennan, Med. Corps, Pres. Examining Board, San Francisco, for further examination to determine his fitness for promotion.

Nolven, F. Homer, D. S., left temporary duty at Ft. Ward, Washington, en route to Ft. George Wright, Wash., for temporary duty.

Allen, John H., major, leave of absence for 10 days, extended 10 days.

Harris, Herbert I., M.R.C., order relieving him from duty at Ft. Snelling, Minn., and directing him to proceed to the Philippines Division, for duty, is revoked.

Scott, H. O., D.S., Jan. 4, relieved from duty at Ft. Hamilton, N. Y., and ordered to San Francisco. Dent. Surg. Scott on expiration of leave of absence to report to S. G. for annulment of contract. Granted one month and 10 days leave of absence.

Mason, George L., D.S., reports for temporary duty at Ft. Missoula, Montana.

Wing, F. F., D.S., left Ft. D. A. Russell, Wyo., en route to Ft. Crook, Nebraska, for temporary duty.

Ebert, Rudolph G., lt.-col., relieved from duty as chief surgeon, Dept. of the Columbia, and ordered to San Francisco, for duty as chief surgeon, Dept. of California, relieving Lt.-Col. Chas. M. Gandy, Med. Corps, and in addition to that duty Lt.-Col. Ebert will assume the duties of medical superintendent, Army Transport Service, San Francisco. Lt.-Col. Gandy after being relieved will proceed on transport to sail from San Francisco, about March 5, 1911, to Manila, P. I., for assignment to duty in Philippines Division.

McAlister, John A., Jr., D.S., on arrival at San Francisco, will proceed to Ft. Leavenworth, Kansas, for duty at that post.

Leslie, Samuel H., D.S., relieved from duty at Ft. Leavenworth, Kansas, and ordered to sail on transport leaving San Francisco, about March 5, 1911, to Manila, P. I., for assignment to duty in the Philippines Division.

Smith, Herbert M., captain, honorably discharged from the service of the United States.

Medical Corps, U. S. Navy

Changes during the week ended Jan. 7, 1911.

Smith, H. L., passed asst-surgeon, ordered to the *Hancock*.

Higgins, M. E., passed asst-surgeon, detached from the naval proving ground, Indian Head, Md., and ordered to temporary duty at the Naval Medical School, Washington, D. C.

Phelps, J. R., asst-surgeon, detached from the *Solace* and ordered to the *Vermont*.

Brown, E. W., asst-surgeon, detached from the *Vermont* and ordered to the naval proving ground, Indian Head, Md.

Foster, T. G., passed asst-surgeon, detached from the naval hospital, Canacao, P. I., and ordered to the *New Orleans*.

Hathaway, G. S., passed asst-surgeon, detached from the *New Orleans* and ordered to the naval station, Olongapo, P. I.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Jan. 4, 1911.

Anderson, J. F., P. A. surgeon, directed to proceeed to Philadelphia on special temporary duty.

Irwin, M. H., A. A. surgeon, granted seven days' leave of absence from Dec. 24, 1910, under paragraph 210, Service Regulations.

McMullen, John, P. A. Surgeon, granted fourteen days' leave of absence from Dec. 30, 1910.

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., as soon as practicable, to make medical survey of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Society Proceedings

COMING MEETINGS

Am. Med. Assn. Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.

Assn. of American Medical Colleges, Chicago, February 27-28.

Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Third Annual Session, held at Nashville, Tenn., Dec. 13-14, 1910

(*Concluded from page 68*)

Stone in the Ureter

DR. R. C. BRYAN, Richmond, Va.: The size, number, and location of the stone having been accurately determined, the treatment resolves itself into one of two methods: (1) ureteral catheterization and lavage; (2) operation. It would seem advisable in small stones, and those located in the lower segment of the ureter, to attempt by ureteral catheterization and injection to dislodge them. This will likely occur in a fair percentage of instances. It occurred in four of my eight cases. If this method fails, operation is indicated. I have done only the extraperitoneal operation. It does not appear that the intraperitoneal or combined method offers any advantage which would justify the possibility of peritoneal infection by urine leaking from a suppurating tract. An incision starting midway between the highest point of the crest of the ilium and the eleventh rib, and running to the anterior superior spine of the ilium, thence parallel with and internal to Poupart's ligament for its outer three-fourths, has in my series given sufficient opening to explore the ureter from the kidney above to the bladder below. In those instances in which the stone is incarcerated in the intravesical segment, the incision may be carried down to the spine of the pubes, thus giving all the room desired. The ureter is cut through its long axis and the stone removed. Catgut sutures approximate the wound, and a tube is inserted to the site. In my series there was leakage in but one case for five days, the remainder giving none at the end of two days.

The Early Diagnosis and Treatment of Renal Tuberculosis

DR. J. M. MASON, Birmingham, Ala.: Renal tuberculosis is, in the beginning, a unilateral infection and may remain so for a long time. For successful treatment the patient should reach the surgeon while the disease is still confined to one kidney. The early symptoms are rarely referred to the kidney, but in a large percentage of cases are vesical and may remain so for many months. Repeated examinations should be made for the detection of tubercle bacilli in the urine, and often the inoculation of guinea-pigs should be resorted to. The cystoscope and ureteral catheters must be made use of to ascertain the condition of the bladder and to determine which kidney is the seat of disease, also for the purpose of ascertaining the organic and functional condition of the second kidney. The treatment consists of prompt nephrectomy followed by the best hygienic, climatic and dietetic management.

Time and Technic for Cesarean Section

DR. LEWIS S. MCMURTRY, Louisville, Ky., read a paper on this subject which will appear in THE JOURNAL.

Intussusception in the Adult

DR. STEPHEN H. WATTS, Charlottsville, Va.: I have had two cases of intussusception in the adult, one of which was due to multiple adenomata of the intestine, and the other to a sarcoma of the cecum. In the first case it was found necessary at several operations to perform two resections of the intestine with lateral anastomosis, two other lateral anastomoses, and seven enterotomies for removal of the growths. The patient was perfectly well when seen about a year after the last operation. In the second case, after reducing the intussusception, the sarcoma was removed with an elliptical portion of the wall of the cecum, and the patient made a good recovery.

Complications Due to Operative Procedures

DR. L. E. BURCH, Nashville, Tenn.: Many of the accidents following operations are preventable. No operation should be advised, however trivial in character, unless there is positive pathology to indicate its performance. No operation should be carried out, either under local or general anesthesia until a careful history of the case is obtained, including a thorough physical examination, with urinary and blood findings. Better results would be obtained and fewer accidents would happen if patients are given preliminary treatment before operation. Surgeons should never state to patients that any operation is free from danger.

Formation of a New Vagina

DR. ALEXANDER HUGH FERGUSON, Chicago: I do not claim to produce a normal vagina, still in two of my three cases a vagina has been formed. The technic of the operation varied slightly in each case, but the underlying principles were the same, namely, first, to utilize the available mucous membrane: second, to form three flaps; third, to tunnel through behind

the bladder and in front of the rectum, dissecting the peritoneum from both structures without opening the peritoneal cavity; fourth, to invert the flaps into the tunnel thus formed and suture them in place with catgut. The lateral flaps include the mucosa of the labia minora on either side, exercising care not to interfere with the mucous membrane in connection with the clitoris and meatus urinarius. The flaps are cut as thick as possible in order not to interfere with nutrition. The fact that the flaps are not sutured together renders the cavity dilatable. Horsehair is used to close over the denuded areas. A roll of gauze about seven inches long is anointed with sterile petrolatum and zinc oxid and inserted into the plastic vaginal canal. The external end spreads like a flange and is held in place by a firm pad. It must not fit too tightly. The initial dressing must not be withdrawn for six or eight days. The parts must be kept as aseptic as possible. The internal stitches are catgut and may be left to become absorbed. The horsehair should be left in place for two weeks. Absolute cleanliness without antiseptics is of primary importance. The patient must remain under observation for at least three months.

The Treatment of Anteflexion

DR. HENRY T. BYFORD, Chicago, read this paper, which will appear in THE JOURNAL.

Complete Transverse Destruction of the Spinal Cord

DR. RANDOLPH WINSLOW, Baltimore: In this case there was complete transverse destruction of the spinal cord from pistol wound, without penetration of the spinal canal. In two cases of pistol wound of the dorsal vertebræ the cord was not injured by direct impact of the bullet, but in both paralysis and the usual signs of a transverse destruction of the cord immediately supervened, proving fatal in one case, which came to autopsy and the bullet was found lodged in the second dorsal vertebra, but not penetrating into the spinal canal or impinging on the cord. The other case presented similar symptoms and was submitted to laminectomy, but the cord was not divided nor could the missile be found. The patient is still living, but is in a very precarious condition, with absolute paralysis below the eighth dorsal vertebra. These cases were probably due to concussion of the cord. Serious and even fatal lesions of the spinal cord may be produced by concussion, without direct impact. In gunshot injuries with a probability of a complete severance of the cord, laminectomy should be performed, foreign bodies and clots removed, bleeding arrested, and if the cord has been divided, the separated ends should be approximated with sutures. Care should be exercised not to destroy any nerve fibers or tracts which may still be intact.

Unusually Large Ovarian Cyst

DR. J. SHELTON HORSLEY, Richmond, Va.: The cyst in this case weighed 116½ pounds. It was successfully removed. The greatest abdominal circumference was sixty-three inches. Operation in these cases of large ovarian cysts usually has a high mortality rate on account of the pressure which causes organic changes and makes the patients poor surgical risks.

DISCUSSION

DR. THOMAS S. CULLEN, Baltimore: Four and a half years ago I saw a patient who weighed 174 pounds. She was supposed to have an ovarian cyst, but it turned out to be a fibroid tumor. We operated, removed an 89-pound fibroid, and the patient immediately after operation weighed 85 pounds. After a week in the hospital, when edema began, she weighed 80½ pounds, and although she developed bed sores she promptly recovered.

DR. ALEXANDER HUGH FERGUSON, Chicago: I was once called to see a woman with a large ovarian cyst. She had carcinoma of the left breast and gall-stones. She was in a bad condition. I introduced a small trocar and cannula which went into a cyst that was quite watery. The trocar was left in place for twenty-four hours. The next day she could eat, a thing she had not been able to do for two weeks, and she could swallow. Her heart, which was bad, improved. I passed a larger trocar in another direction through the same opening, and allowed it to remain for another twenty-four hours, and then she was brought to Chicago. Three days later I operated and at one sitting removed the cyst, the left breast, and 1,250 gall-stones from the gall-bladder. She recovered.

A Malignant Intestinal Growth Requiring the Removal of an Unusual Number of Abdominal Structures

DR. THOMAS S. CULLEN, Baltimore: The patient was 56 years of age, very pale and emaciated. Pelvic examination revealed a growth on the posterior surface of the uterus. This almost filled the pelvis and felt very much like a myoma. The patient, however, gave a history of flattened stools occasionally associated with diarrhea and a malignant intestinal growth was suspected. On opening the abdomen I found a growth involving the lower portion of the descending colon, also a loop of small bowel, and extending out and forming a tumor mass in the mesentery of the small bowel. Intimately blended with this tumor mass was the uterus. The appendix was also involved. As no secondary nodules could be found either in the mesentery, in the lymph glands, or in the liver, removal was undertaken. The uterus was amputated through the cervix and with the tubes and ovaries turned up on the surface of the tumor. The appendix was next amputated, carefully covered over with gauze and also turned up on the tumor. About three feet of small bowel and almost a foot of large bowel were then clamped off and the mesentery of the small bowel containing the tumor was gradually tied off. All the structures mentioned were removed in one piece, as it would have been absolutely impossible to separate the uterus without entering the cancerous mass and opening up the bowel. It was possible to remove the entire mass without soiling the peritoneum. The four ends of the bowel were closed. A lateral anastomosis was then made between the small bowel and the cecum, and as the descending colon had been redundant it was possible to do a lateral anastomosis between the descending colon and the sigmoid. A drain was laid in the pelvis. The patient made a very satisfactory recovery and is at present in good health. The ultimate outlook is not a favorable one.

Goiter Operations

DR. JOHN R. WATHEN, Louisville, Ky., described an improved technic in goiter operations, an abstract of which appeared in THE JOURNAL, Jan. 29, 1910, p. 409.

Collapse of the Trachea While Performing Thyroidectomy

DR. T. C. WITHERSPOON, Butte, Mont.: Twice during the last fourteen months has the trachea collapsed while I was performing a thyroidectomy for exophthalmic goiter. Predisposing causes of collapse of the trachea are the anatomic defect in the rings posteriorly, and the proximity of the recurrent laryngeal nerve to the thyroid gland. The one prophylactic measure which I suggest as a means of avoiding pressing on the trachea is a para-sternocleido-mastoid incision. This enables the operator to raise the gland out of its bed without medianward pressure of appreciable degree. While working out the problem of removal of the thyroid under local anesthesia, I found it very much easier to do so by the paramuscular than by the collar incision. Manipulation was easier and discomfort minimized.

Catheterization of the Common Duct for Enteroclysis in Toxic Biliary Cases

DR. RUDOLPH MATAS, New Orleans: I am convinced that this constitutes one of the most valuable therapeutic assets in dealing with the dangerous postoperative complications of biliary cases. I have had occasion to try it in a case of choledochus drainage after cholecystectomy for gangrenous and perforated gall-bladder. Notwithstanding the excellent effect of the duodenal infusion on the circulation, the patient succumbed on the fifth day from the effects of general peritoneal

sepsis and exhaustion due to secondary pulmonary infarcts. I have also applied it in three other cases of persistent biliary fistula after cholecystotomy for multiple calculi and cholecystitis. In these cases there resulted a rapid cure of the fistulæ after repeated catheterization of the biliary tract, including the duodenal orifice of the common duct. I have injected the fluid directly into the duodenum by introducing a catheter through the gall-bladder opening into the common duct and then into the duodenum. For this purpose, I have found nothing so effective as a ureteral catheter, beginning with a fine bougie and gradually dilating with the catheters until the number three of the French scale has been reached.

Treatment of Acute Intestinal Obstruction

DR. JOHN YOUNG BROWN, St. Louis: An analysis of the records of fifty-nine cases of acute intestinal (mechanical) obstruction, coming under my care, with the view of ascertaining the treatment received in each case prior to operation and the bearing this treatment had on the mortality has convinced me that the general profession has yet to appreciate that acute intestinal block is one of the gravest and most disastrous surgical emergencies, and that the outcome of a given case depends largely on the time elapsing between the development of the condition and its relief by surgical interference. Of the fifty-nine cases, twenty-seven required primary resections for gangrene of the bowel. All of these cases, except one, resulted from strangulation due to hernia, the exception being due to a gangrenous intussusception. Of these twenty-seven patients, five died, a mortality of about 20 per cent. In twelve cases the formation of an artificial anus was necessary. Three of these were for strangulated umbilical hernia, four for strangulated inguinal hernia, and five for acute obstructions due to malignancy. Of these twelve patients, six died, a mortality of 50 per cent. Twenty cases of strangulated inguinal hernia in which the contents of the sac were such that they could be returned to the abdomen resulted in the loss of one case, a mortality of 5 per cent. The total mortality in the fifty-nine cases was a little over 20 per cent. The history of each case showed that temporizing methods were resorted to prior to operation, the cases being referred for operation as a last resort. In the treatment of gangrenous bowel found in the sac of a femoral hernia, I strongly advocate the use of a supplementary abdominal incision as possessing many advantages when it becomes necessary to resect the intestine. In the postoperative treatment, I advocate frequent washing of the stomach, the withholding of food by the mouth, and the use of salt solution both under the skin and in the rectum, and I condemn the use of morphin and strychnin. In cases in which an artificial anus has been made, I urge the importance of attention to the passive bowel. Failure to attend to this point in the after-treatment can result in a contracture of the small bowel to such an extent that it will complicate the work of restoring the intestinal continuity.

The Causal Relationship Between Injury and Cancer

DR. WILLIAM B. COLEY, New York: In 236 (26 per cent.) of 910 cases of sarcoma seen by me there was a definite history of antecedent trauma. The interval elapsing between the injury and the development of the cancer was less than two weeks in sixty-three cases (27 per cent.); less than a month in ninety-seven cases (42 per cent.); tumor occurred within the first six months in 137 cases (60 per cent.). The disease originated in the bone in 111 cases (47 per cent.) and in the soft parts in 125 (53 per cent.). In 125 cases of carcinoma of the breast there was a definite history of previous injury in fifty-two cases (41 per cent.). In five of these the tumor was noted within a week after the injury; in twelve within the first few weeks; in nineteen within the first month, and in thirty-six within the first six months. Three cases fulfill the strict, scientific test which Segone requires, namely, that a medical examination has been made of the parts by a competent surgeon prior to the accident. I believe more strongly with increasing experience that all types of malignant tumors are of extrinsic origin or parasitic.

Volvulus of the Cecum

DR. HORACE J. WHITACRE, Cincinnati: I have seen four cases of volvulus of the cecum. In one case a very movable cecum and ascending colon had passed over in front, completely around and behind the mesentery of the small intestine, and reappeared in the right side. This patient had suffered three previous similar attacks of obstruction of the bowel which had been relieved by enemata and position. This patient recovered after operation. Cases two and three represented volvulus of the cecum and ascending colon alone, gangrene having occurred in both. One of these patients recovered. A fourth patient suffered from volvulus of the cecum and ascending colon, was operated on in a very few hours, and made a prompt recovery. Volvulus of the cecum is among the least frequent causes of intestinal obstruction. It has occurred at all ages from 16 days to 80 years. The symptoms, as a rule, do not differ widely from those of intestinal obstruction from other internal cause. The mortality is very high even in the cases operated on (52.2 per cent.). The mortality in my group of cases was 25 per cent.

Pylorospasm

DR. STUART MCGUIRE, Richmond, Va.: Spasm of the pylorus is not a disease but a symptom. It may be caused by rapid eating, by indigestible food, by an ulcer or other lesion of the stomach, but is most frequently the expression of some remote abdominal disease. How appendicitis or cholecystitis causes gastric symptoms has never been satisfactorily explained. It is believed that irritation transmitted to the stomach through the sympathetic nervous system causes an excess secretion of hydrochloric acid. The resulting hyperchlorhydria causes spasm of the pylorus; the pylorospasm causes retention of food beyond the physiologic limit, and finally there comes motor insufficiency, food stagnation and dilatation of the stomach. The most prominent symptom of pylorospasm is a cramping pain in the epigastrium, which may last only a few minutes or may continue for several hours. In some cases the spasm may relax suddenly; in others it may terminate slowly and gradually. Some patients have attacks several times a day; others at intervals of weeks; and others still only once or twice a year. In the interval between attacks the digestion may be normal. During attacks peristalsis of the stomach is increased, but food cannot pass through the pylorus, and often relief comes only after vomiting. The patient usually diets strictly, and loses flesh and strength steadily from starvation and auto-intoxication. In no other case of patients, with possibly the exception of epileptics, is it necessary to be so thorough in preliminary examination and so patient in postoperative treatment. The real cause of the condition must be found, and after it has been removed the patient must be systematically treated until the hypersensitiveness of the pyloric muscle is relieved, and its spasm habit overcome.

Tumors of the Jaw

DR. WILLIS F. WESTMORELAND, Atlanta, Ga.: So far as my clinical experience goes this type of tumor has practically disappeared. I have not seen one in years. It seems to have occurred almost exclusively in the negro. In thirty-eight cases operated on by my father, only one was white. In the five cases coming under my observation, all were in the negro. Among us these cases were known as fibro-cystic tumor; this title very closely describes the gross clinical appearance of the tumor. It seems to conform more closely to the species of follicular odontoma of the genus odontomata in Bland Sutton's classification. I would class it as an anomalous form of this species. I should judge they belong to the follicular rather than the epithelial odontoma, although they have never shown malignancy, while the epithelial type occasionally does. Clinically the tumors present a uniformly well-rounded mass, the surface of which feels hard and dense to the touch. Firm pressure on the tumor with the fingers will always at some point elicit a distinct crackle; this is characteristic and is in a way diagnostic, though not differentially so as it occurs in other species of odontomata.

Transfusion in Pellagra

DR. H. P. COLE, Mobile, Ala., presented a review of twenty cases of this disease. His article will appear in THE JOURNAL.

Other Papers Read

The following papers were also read: "Hydatid Cyst of the Liver, Successfully Treated by Operation," Dr. John C. Oliver, Cincinnati; "Diagnosis of Extrauterine Pregnancy," Dr. E. Gustav Zinke, Cincinnati; "Position for Saving Time in Combined Abdominal and Pelvic Outlet Operations," A. C. Scott, Temple, Tex.; "Omentopexy," Dr. Maurice H. Richardson, Boston; "Tumors of the Breast," Dr. Wm. C. McCarty, Rochester, Minn.; "Aneurysm," Dr. J. G. Sherrill, Louisville; "Hypernephroma Arising in the Right Testicle," Dr. James E. Thompson, Galveston, Tex.; "Degeneracy, the Underlying Cause of Disease; How the Unfit Perish," Dr. Chas. P. Noble, Philadelphia; "Cysts of the Pancreas," Dr. R. B. Hall, Cincinnati.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Nov. 23, 1910

The President, DR. HENRY LEFFMAN, in the Chair

The Pathologic Chemistry of Diabetes Mellitus

DR. A. G. ELLIS: The hyperglycemia and glycosuria of diabetes mellitus are due either to overproduction of glucose by the liver or to an underconsumption of that substance by the tissues, the former possibly the chief of the two. This perversion of metabolism appears due either to the failure of substance produced normally by the pancreas, muscles, and possibly other tissues, or to an affection of the central nervous system. The acidosis of diabetes is due to the abnormal metabolism of fats and possibly proteins as carried on in the absence of sufficient carbohydrates. Determination of acetonuria appears to be the most satisfactory clinical method of estimating the degree of acidosis.

The Functions of the Stomach in Diabetes Mellitus

This article by Dr. John J. Gilbride will appear in THE JOURNAL.

The Cold Cautery; Carbon-Dioxid Snow

DR. L. D. FRESCOLN: In making profound impressions of cold, we have a rapid method in the use of carbon-dioxid snow, what I call the "cold cautery." With varying degrees of exposure and under regulated amounts of pressure it causes hardening, bleaching, vesication (like extreme frost-bite) and finally crusting and at times a pliable scar. It is used successfully in treating moles, nevi, warts, senile keratosis, lupus erythematosus, lupus vulgaris, trachoma and some forms of epithelioma of the skin. It is to be applied from 10 to 40 seconds, often with considerable pressure. It is well for the operator to protect his own fingers during the application. We should not treat a large area at one sitting, particularly on the cellular tissue about the eye. The temperature of the solid stick is 79 C. and this may be reduced by dipping in ether. Cases of keratosis senilis, thought by the patients to be malignant and lasting many years, have disappeared completely in from one to three treatments, and this sometimes, when the Roentgen rays have made little improvement. The proper cases should be chosen for this particular treatment. It should be tried in the future on keloids. Its advantages are: It is cheap; easy to control; prompt in action. Portable tubes are used for office practice. A summary of its action may be quoted as (1) stimulating; (2) destructive; (3) immediate destruction. Further study is needed on this form of treatment to reach its possibilities.

DISCUSSION

DR. HENRY KENNEDY GASKILL: We have had experience with the "cold cautery" in fifty or sixty patients in the past three years at the Jefferson Hospital with most gratifying results. Included in this series were cases of lupus erythematosis, pigmented moles, capillary nevi, small epitheliomas and tattoo marks. In many cases of nevi, the electric needle was supplemented, for small areas left between applications are difficult to treat otherwise. When the trouble is deep-seated the exposures must be from one minute to one minute and twenty seconds, and we have found that if given in applications of twenty seconds and in two days afterward another application of thirty seconds the resulting scar will be less, though the pain is more. In small pigmented moles the electric needle is still preferable, as often the pigments will be disseminated in a ring around the area. Dr. Stelwagon has adopted a little apparatus consisting of a small metal tube filled with carbon dioxid and a rubber tube with stop cock, originally intended to be sold for the inflation of automobile tires. This tube is about 12 inches long, having a copper cap, which has to be punctured to allow the escape of gas which is collected in a piece of kid firmly bound down with adhesive strips. The snow can readily be molded by hand and with a knife cut in any desired size or can be pressed into an ear speculum. It is wise to measure the area to be treated in order that the surrounding skin may not be involved while the snow is melting under pressure. The larger tubes that are used in drug stores are unsightly as well as awkward to handle and there is some risk of their exploding. This little tube is neat, readily handled and can be carried to the patient's house if desired.

DR. M. B. HARTZELL: I have used the cold cautery and have found it most convenient in appropriate cases, but it is far from being a cure-all. It is a caustic and can accomplish only that which any other caustic can effect. It acts rather superficially, which limits its usefulness and accounts for the slight scarring which follows its use. Its greatest use is in vascular nevi. I do not believe it to be effective in lupus vulgaris; it does not go deep enough. The small tubes have a certain degree of convenience but they are certainly not cheap. A most convenient way of preparing the gas for use is by making a cylinder of thick blotting paper around a stick, and around this wrapping a towel. After molding the carbon-dioxid in the cylinder it can be withdrawn, when you will have a stick of the cold cautery ready for use. I have not used the cautery in lupus erythematosus sufficiently long to be sure of permanent results. I must take exception to the statement that the temperature of the carbon dioxid is materially reduced by dipping in ether.

DR. FRANK C. KNOWLES: I have employed the carbon-dioxid snow in quite a number of cases and have had the best results in angiomata. The port-wine stains apparently do not respond as well as other discolorations, as do not the very deep-seated angiomata. In cases of lupus erythematosus improvement but not cure has been obtained by this treatment. In the molding of the snow I employ wooden pill-boxes, using the size approximating the area to be treated. When the lesions are small I shape the snow in various-sized ear specula. These simple devices answer admirably, instead of the very expensive and unnecessary appliances so widely advertised.

Treatment of Suppurative Otitis Media (Scarlatinal) by Bacterins

DR. JOHN A. KOLMER and DR. P. G. WESTON read a paper on this subject which will appear in THE JOURNAL.

DISCUSSION

DR. B. ALEXANDER RANDALL: The results reported in this paper represent about half of all the work done on this subject, the aggregate of cases treated elsewhere having been hardly more than the hundred cases reported to-night. I am a believer in the matter, but everything of the sort must be dealt with cautiously. The natural history of the disease must be distinctly taken in mind to estimate rightly the value of any treatment. The success of the treatment, together with the fact that other treatment was withdrawn, gives a strong support to the claims made for it. On the other hand, I cannot refrain from feeling that more can be done in the simple measure of irrigation than has been intimated. If the amount of personal attention requisite in the culturing, etc., were given to the older-fashioned style of treatment we

would have a considerable amount of good results. If a child with scarlet fever or other exanthemata is well protected as to the ears with a nightcap much can be done to forestall trouble. If the case is treated early I think we can bring it to a successful issue in children in fair condition of health, in something like three weeks; I have done it in eighteen days.

DR. B. A. THOMAS: Incidentally I would like to criticize the employment of the term "vaccine." I think it is proper that we should use as nearly as possible scientific terms. The therapeutic agent referred to is merely a suspension of dead bacteria in physiologic salt solution, to which has been added a minute quantity of phenol for preservative purposes; hence "bacterin" is the term which scientifically and properly expresses the nature of the preparation. "Vaccine," the term unfortunately employed by Wright, has by common usage become almost universally popularized, but strictly is a misnomer and should be restricted to the virus used in vaccinia, derived from the cow in accordance with the original suggestions of Jenner. Otitis media can be divided into the acute suppurative, and chronic suppurative varieties for bacterin treatment. The treatment has a definite accessory effect in conjunction with other forms of treatment. Local measures should never be omitted. I feel that bacterin therapy in otitis media has a more restricted field as a therapeutic measure than in the vast majority of affections in which it is commonly used. This is largely due to the fact that the middle ear is encased in a bony cage.

DR. JOHN A. KOLMER: Local treatment in conjunction with the bacterin treatment is advisable if it can be carried out by the physician himself. The average nurse is not able to syringe the ear satisfactorily. We are always careful to see that drainage is free and feel that anything more is unnecessary. The ear is cleansed several times a day and care observed that there is no thickening of the pus leading to retention.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

NEWSPAPER COMMENTS ON A NATIONAL DEPARTMENT OF HEALTH

The proposal to establish a national department of health continues to gain favor among newspaper editors, in spite of the desperate efforts and unlimited expenditures of those having selfish reasons for endeavoring to prevent it. Evidence is not lacking that the prodigal expenditure of money and the unlimited amount of printed matter used in attempting to arouse prejudice against a proposed agency for promoting better health conditions have already caused a reaction, and that the press, as well as the people, is asking what the motives are of those who are ready to devote large amounts of time and money to prevent such legislation. American newspaper men are throroughly familiar with all the devices of the publicity promoter. They know that only those buy newspaper space and printer's ink who expect to get a return for their money. They naturally assume that the funds for the support of such an expensive campaign come from those who fear they would lose their ill-gotten gains if a department of health, backed by the federal government, should do for the whole people what the Department of Agriculture has done for the farmer. The Natchez *Daily News* in a recent editorial comment says, in part:

NO DEPARTMENT OF HEALTH

". . . Thoughtful citizens throughout the country will regret the inaction in a matter of transcendent importance to the people. The opposition to the measure comes from many quarters and for many reasons. Certain alleged schools of medicine are opposed to it for specious reasons, though the real reason is that if we had a department of health, what is known as the 'regular' school of medicine might be represented more strongly than all others. Since one school represents over 90 per cent of all physicians, there would not be anything unreasonable to have them more numerously represented in the contemplated department of health.

"In other quarters the opposition is based on the ground that a national department of health would in some mysterious manner interfere with the rights of the states in home affairs. This ground is poor at best, and insincere in most cases; . . . The opposition of many well-intentioned men to the establishment of the Department of Agriculture a quarter of a century ago was based on the alleged violation of states' rights; however, states' rights or no rights, the Department of Agriculture is doing a very useful work, and its agency for good is no longer a matter of dispute. The most fanatical states' rights men do not hesitate to work tooth and nail for the improvement of rivers in their districts, and for the increase of the powers of the Interstate Commerce Commission, the states regulation not being sufficient.

"The real opposition is chiefly due to the wilful ignoring of the fact that human health and life should be the first care of the state and of the legislator. The most freely moving object between states is man, and yet less is done to control human disease and to gather statistics concerning his birth, life and death than is done for cattle. We resort to the federal government to eradicate the tick in cattle or cholera in hogs, yet, according to some Democrats, states' rights are in the way when it comes to the establishment of a Department of Health. No doubt, such a department will be established some day, . . . when the general interest in the welfare of our children will at least equal that in the thriving of our pigs. Some day when the real concerns of the people will receive as much attention as politics, we may have a department of health."

The argument of the *News* effectually disposes of the states'-rights objector. Coming from a southern newspaper of influence, this statement is significant, yet it is no more than is to be expected. The southern states have learned the value of federal aid in the suppression of epidemics and the preservation of life. The advocates of states' rights in public health matters will not come from the south.

Equally significant is a recent editorial comment of the Boston *Advertiser*, which considers the question from an economic and social standpoint; and particularly worthy of note is the emphasis laid on the necessity of public opinion in the protection of public health. The *Advertiser* says, in part:

"The agitation for a national department of public health, at Washington, is based on some sound and able arguments, including that of economy in public service. There has been plenty of misdirected effort in the confusion which arises from the existence of so many branches of sanitary service, under the direction of different departments or bureaus of the government service. It would be possible to secure greater efficiency with striking economy, as compared with existing conditions, if the work were all placed under the control of a single department or bureau. . . . .

"But the fact remains that the real, vital force that must protect the public health, if it is ever to be protected, will be found in the force of public opinion. If the people will but insist on legislation which will safeguard their interests and their lives, it will be possible for the national and the state departments of health to do what should be done; but that time has not yet come. Perhaps it will never come within the lifetime of this generation. Something may be done, here or there, for the suppression of epidemics, for the elimination of the most evident and most striking dangers to public health; but until the people make it their business to vote at the polls for their own protection against the greed or the indifference which annually sacrifices the lives of tens of thousands, there will be no hope for any adequate protection of the people against the results of insanitary methods in workshops, farms, cities, and country, generally."

The Chicago *Tribune* recently discussed the question editorially from the humanitarian standpoint, laying special emphasis on the unnecessary and avoidable loss of life under existing conditions. Under the heading "American Waste of Life," the *Tribune* says:

"When the federal government appropriated large sums to relieve such distress as was occasioned by the San Francisco or the Messina disaster, every one approved the action with a warm glow at the heart. Such aid is in every way com-

mendable, but it is aid after the fact. . . . Every day of the year there die by preventable diseases or accident a number equal to the full crews of two battleships. For the loss of one such crew we went to war with Spain. Every three months as many lives are sacrificed to those causes as there are men in the United States army. All the dead in every war we have had since 1776 only equal the yearly toll made by disease and accident in this country.

"Last year the entire population of Indianapolis died of degenerative diseases. Tuberculosis swept away every man, woman and child in Paterson, N. J. Pneumonia carried off all of the inhabitants of Wilmington, Del., and every one in Yonkers was killed by an accident. If these things really happened the whole world would be shocked and our government would stop all other legislation to enact laws looking to the prevention of such catastrophes in the future. But because these diseases carry off their victims not all in one place but in many places over the country we do nothing about it.

"President Taft has had this matter much at heart. He favors the proposed department of health and he is quoted as saying: 'There is nothing in the constitution especially about hogs, or cattle, or horses, and if out of the public treasury at Washington we can establish a department for that purpose it does not seem a long step or a stretch of logic to say that we have the power to spend the money in a bureau of research to tell how we can develop good men and good women.' Fear has been expressed that the establishment of a national health department will curtail individual liberty, but the Department of Agriculture has helped, not hurt, the farmer, and that of Commerce and Labor has immeasurably benefited the workingman and the merchant. . . .

"We are prodigal of life in a measure which amounts to impiety. The waste must be stopped, not by leaving it to the doctors but by the establishment of research bureaus, the popular education of the people in sanitary matters, and by the enforcement, when necessary, of laws designed for protection of the public against disease and accidents."

Of the three methods by which the *Tribune* proposes to stop the waste of life, probably all will admit that the second—"the popular education of the people in sanitary matters"—is the most important. So long as the people know no better, they will continue to be duped and misled by the quacks, fakers and swindlers who have preyed on them for years. It is the duty of those who know the facts to place them before the people. As soon as this is done, it will require more than one "national league" to prevent the government from protecting the lives and health of our citizens.

Especially interesting are the editorial comments of the Chicago *Tribune* in a later issue regarding the recommendations on the creation of a bureau of health contained in the President's message to Congress. The *Tribune* says:

"Another well-considered recommendation is that on behalf of the unjustly attacked bureau of health, already recommended in a previous message. The objections raised were partly disingenuous and partly mistaken, and should not be permitted further to postpone the creation of this useful bureau. One of the great public services which it is to be expected will be performed by such an institution is to give effective aid to the proper authorities for the suppression of the criminal traffic in nostrums and dangerous drugs."

In the last sentence of the extract quoted above is to be found the explanation for the opposition to the organization of an efficient federal health department. Those who have fattened for years on public ignorance and carelessness would have the people believe that the medical profession of the United States is composed of political plotters and schemers, endeavoring to advance their own interests at the expense of the public. To avoid the charge of wholesale slander on a profession, they assert that the majority of physicians are unselfish but that they are dominated by a few "political doctors." Truly, the American Medical Association is blessed in the enemies which it has made. No better evidence of the unselfishness of its aims could be asked than the methods and the arguments by which its work is being opposed. Those who favor and are working for a national department of public health should feel under deep obligations to the "National League of Medical Freedom," since this organization is truly educating the public with an effectiveness that leaves little to to be desired.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month—Second Weekly Meeting

PREPARATION OF PATIENT FOR ANESTHETIC

Time of anesthetic. Diet. Clothing. Foreign bodies in mouth. Gavage. Operating room. Position of patient for anesthetic.

CHOICE OF AN ANESTHETIC

IN HEALTHY SUBJECTS: For brief operations, for prolonged anesthesia. Age, sex, pregnancy.

IN DISEASE: Alcoholism, diseases of the respiratory tract, diseases of heart and blood-vessels, renal disease, shock from trauma, collapse from hemorrhage, ruptured viscera, etc.

IN OPERATIVE SURGERY: Operations about head, neck, face, nose, eyes, trachea, thyroid, thorax. In abdominal surgery. In labor.

INDICATIONS AND CONTRAINDICATIONS FOR ETHER AND CHLOROFORM.

ANESTHESIA BY SEQUENCE: Advantages and disadvantages.

SCOPOLAMIN-MORPHIN ANESTHESIA: Status, dangers.

ACCIDENTS DURING ANESTHESIA

SUFFOCATION: Causes and treatment.

RESPIRATORY PARALYSIS: Incidence, causes.

CARDIAC PARALYSIS: Causes, incidence.

TREATMENT: Of cardiac and respiratory failure; artificial respiration, cardiac massage, rhythmic traction of tongue, epinephrin, faradism, amyl nitrite.

SEQUELÆ OF ANESTHESIA: Vomiting. Shock. Post-anesthetic and central anesthetic palsies. Lung complications. Renal complications. Delayed chloroform poisoning.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

IOWA: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

KANSAS: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

NEBRASKA: State House, Lincoln, February 8-9. Sec., Dr. E. Arthur Carr.

NEW YORK: New York City, Albany, Syracuse and Buffalo, January 31 to February 3. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

Annual Meeting of National Confederation of State Boards

The National Confederation of State Medical Examining and Licensing Boards has announced that its twenty-first annual meeting will be held at the Congress Hotel, Chicago, Tuesday, Feb. 28, 1911, on the day preceding the conference of the Council on Medical Education. The program will include a symposium on "State Control of Medical Colleges," which subject will be considered from the view points of the state, the law, the college, the licensing board and the medical profession.

Joint Conference on Medical Education and Medical Legislation

The American Medical Association's second joint conference on medical education and medical legislation will be held at the Congress Hotel (formerly Auditorium Annex), Chicago, Wednesday, Thursday and Friday, March 1, 2 and 3, 1911, the first session to begin at 9 o'clock Wednesday morning.

Wednesday, March 1, will be taken up by the seventh annual conference of the Council on Medical Education of the American Medical Association, the program for which will include addresses and reports on preliminary education, the five-year medical course, laboratory facilities and instruction, hospital facilities and instruction, the hospital year, the license examination and reciprocity. For Wednesday evening, an address from some well-known speaker has been planned.

Thursday, March 2, will be devoted to a joint conference on medical practice legislation of the Council on Medical Education and the Council on Health and Public Instruction. The program will include discussions of medical practice laws from the standpoint of the legislator, lawyer, judge and sociologist; also, a discussion of the enforcement of medical practice acts.

Friday, March 3, will be devoted to a conference on legislative matters, including vital statistics, pure foods and drugs, expert testimony, etc.

Reservation of rooms can be made in advance at any of the hotels in the city. The Congress, Auditorium, Stratford and Blackstone hotels are conveniently located on Michigan Avenue within easy reach of the meeting-place.

Tennessee May Report

Dr. C. A. Abernathy, secretary of the State Board of Medical Examiners of Tennessee, reports the written examinations held at Nashville, Knoxville and Memphis, May 3-4, 1910. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 367, of whom 315 passed, including 142 non-graduates, and 52 failed, including 25 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1908)	90.6
Indiana Medical College	(1906)	78.7
University of Louisville (1909) 76.2, 84.2; (1910) 79.4, 80, 83.1, 83.9, 84.7, 87.2, 91.2, 91.6.		
Tulane University of Louisiana	(1903) 88.9; (1909)	90
Univ. of Michigan, College of Med.	(1907) 90.5; (1908)	94.9
Baltimore Medical College	(1907)	90.2
University of Maryland	(1909)	80.9
Tufts College Medical School	(1897)	92.7
Mississippi Medical College	(1908) 85.6; (1910)	76.4, 84.1
Missouri Medical College	(1885)	84.2
Leonard Medical School	(1909)	82.5
College of Physicians and Surgeons, Memphis (1907) 75.2; (1910) 78, 80.2, 88.7, 88.9, 90.		
Memphis Hospital Medical College (1899) 83.2; (1901) 80.5; (1908) 82.4; (1909) 78.1; (1910) 75, 76.6, 77.5, 77.7, 79.6, 80.2, 80.7, 80.7, 82.4, 82.6, 82.6, 82.9, 82.9, 83.2, 83.4, 83.4, 84.1, 84.1, 84.7, 84.7, 85.7, 86.2, 86.9, 87.5, 88.2, 88.7, 89, 91.5, 92.2, 92.5, 94.9.		
University of Nashville (1902) 80.7; (1907) 93; (1908) 91.4; (1909) 90.4; (1910) 82.5, 83.7, 84, 84, 84.1, 84.2, 85.9, 86.2, 86.2, 86.9, 87.5, 89.2, 89.5, 89.7, 89.7, 90, 90.9, 91.4, 91.7, 92.9, 94.1, 94.1.		
University of Tennessee (1907) 83.5; (1908) 77.7; (1909 79.2; (1910) 85.9.		
Meharry Medical College (1905) 87.2; (1906) 77.6; (1909) 79.7, 79.7, 83.4; (1910) 75.5, 78.1, 78.4, 78.5, 80.4, 82.9, 84.2, 84.9, 86.2, 87.4, 87.9, 88.1, 88.7.		
Vanderbilt University (1901) 91; (1909) 89, 93; (1910) 83, 87.9, 88.4, 90.1, 90.2, 93.6, 95.1, 95.4.		
University of the South (1905) 82.2, 92; (1909) 79.5, 81.1, 81.7, 84.7.		
Tennessee Medical College (1904) 79.1, 80.7; (1908) 77.1; (1910) 79, 83, 85.1, 85.5, 85.6, 86.7, 87, 87.7, 88, 88.2, 88.2, 89.1, 90.1, 90.7, 90.7, 91.5, 93.1, 93.5.		
Chattanooga Medical College (1908) 82.4, 92.7; (1909) 84.6, 91; (1910) 77.1, 81, 81.7, 83.5, 83.6, 85.2, 85.6, 85.4, 87.1, 87.2, 89.9.		
University of West Tennessee	(1909) 76.2; (1910)	76.5
Knoxville Medical College	(1910)	89.6
University of Pennsylvania	(1907)	90.7
University of Virginia	(1892) 85; (1905) 90.2; (1908)	93.4

FAILED

University of Louisville	(1910)	69.9
Mississippi Medical College	(1908)	68.1
Meharry Medical College (1909) 74.5; (1910) 60.6, 62.6, 67.2, 67.4, 70, 71.6		
Chattanooga Medical College (1905) 70.2; (1910) 72.6, 74.4; (1907) 61.7; (1908) 71.5.		
University of Nashville	(1908) 70.9; (1910)	59.4, 68.2, 73.6
Tennessee Medical College	(1906)	68.9
College of Physicians and Surgeons, Memphis	(1910)	65.7, 69.2
University of the South	(1909)	73.6
Memphis Hospital Medical College	(1910)	25, 72.2
University of West Tennessee	(1910)	67.6
University of Tennessee	(1893)	64.5
Gate City Medical College	(1905)	71

ANATOMY

1. What organs are found in abdominal cavity? 2. Describe the abdominal cavity. Muscles and bones that form the same. 3. Name the muscles of the gluteal region, origin and insertion of same. 4. Describe the femur and the bones with which it articulates. 5. What organs are found in the thoracic cavity? 6. Name the facial muscles. 7. Trace the femoral artery. Name the important branches given off by same. 8. Name ten cranial nerves.

PHYSIOLOGY

1. Name the principal chemical elements found in the human body. 2. Mention the enzymes found in the gastro-intestinal canal and the action of each. 3. What is the function of the iron of the red blood cells? 4. Name the three cardiac ganglia. 5. What causes the blood flow in the veins? 6. What are the functions of the suprarenal glands? 7. Mention the principal automatic and reflex centers found in the medulla. 8. What would be the effect of a lesion of the lower half of the pons Varolii 9. If the left occipital lobe of the brain were destroyed, what would be the effect on the sense of sight?

PATHOLOGY

1. Describe the pathology of the liver, lungs and blood in pernicious intermittent fever. 2. Give the pathology of the gastric intestinal tract in acute alcoholism. 3. Describe the pathologic changes in the blood in pyemia. 4. Describe the pathology of the blood in septicemia. 5. Describe the pathology of scurvy. 6. Describe the pathology of gonorrheal arthritis. 7. Describe the pathology of the joints when the seat of chronic inflammatory rheumatism. 8. Describe the morbid changes in the valves in mitral stenosis.

CHEMISTRY

1. Give the chemical formula for carbolic acid. How is it obtained and what are its properties and uses? 2. Give chemical formula for ethyl chlorid. How prepared and its uses? 3. Explain how water and its contained impurities may become purified by running in a shallow stream over a precipice. 4. Give chemical test for free hydrochloric acid in stomach contents. 5. What is the range of the specific gravity of normal urine? State what diseased conditions produce (a) an abnormally high specific gravity of the urine, (b) a low specific gravity of the urine? 6. When testing for glycosuria with Fehling's solution, how do you determine whether the reaction is that of sugar or some other reducing agent? 7. How do you detect the presence of bile in a specimen of urine? Name the principal bile pigments. 8. What is the urinometer? State its importance as an aid to diagnosis.

PRACTICE

1. Name the diseases which you expect to encounter in your practice in Tennessee. Name your methods of making diagnosis of diseases. 2. Name the specific causes of lobar pneumonia. What would auscultation and percussion reveal in the first stage of congestion of the lung? Give a treatment for lobar pneumonia. 3. What is endocarditis? Name the causes which produce it. Give treatment for it. 4. Name the specific cause of typhoid fever. How does it gain entrance to the body? Differentiate typhoid fever from remittent fever. Give a general treatment for typhoid fever. 5. What is cerebrospinal meningitis? Name its specific cause. Differentiate between epidemic cerebrospinal meningitis and tuberculous meningitis. Give the clinical features of each. 6. Describe the eruption of small-pox. Of chicken-pox and of measles. What is the period of incubation of each? 7. Give the differential diagnosis between tonsillar diphtheria and follicular tonsillitis. Name the treatment for diphtheria. 8. Name the chronic diseases of the liver. What are the symptoms of obstruction of the common bile duct? What are the symptoms and clinical manifestations of biliary calculi? Name a treatment for biliary calculi.

SURGERY

1. State the constitutional effects and give the treatment of burns. 2. What general principles govern the diagnosis of a tumor? 3. Describe a method of differentiating between (a) the urethra, (b) the bladder and (c) the kidneys as the source of pus in the urine. 4. State the most common seat of fracture of the clavicle and describe a method of treatment. 5. Describe the steps in the treatment of a scalp wound. 6. Make a differential diagnosis of coma from (*a*) injury, (*b*) apoplexy, (*c*) uremia, (*d*) opium poisoning and (*e*) alcoholic intoxication. 7. What are the symptoms and treatment of a sprained ankle? 8. What arteries need ligating in amputation at the middle third of the leg? Describe your method of ligating.

OBSTETRICS

1. State in detail your management of a normal labor from its inception to its close. 2. Give the differential diagnosis between a primiparous and multiparous woman. How would you calculate the date of confinement? 3. Mention the signs of pregnancy at three months and at six months, naming them in order of their importance. 4. What is your opinion of the Cesarean section? At what time and under what conditions would you advise it? 5. After the period of viability, how would you diagnose a dead fetus, and, if dead, what would you do, and how would you do it? 6. Given a case of placenta prævia approximating full term, what would you do? Give advantages and disadvantages of various procedures as regards safety of both mother and child. 7. Mention the uterine displacements that are liable to influence (*b*) conception, (*c*) pregnancy and (*d*) labor, and state the reasons for such influence. 8. Give a differential diagnosis between ovaritis and ovaralgia.

MATERIA MEDICA

1. What is magnesium sulphate? Give its use in the practice of medicine. 2. From what source is heroin, and what is the dose? 3. Give the source of atropin, and dose. 4. What is hydrastis? Give the dose, and describe the pathologic lesion for which you would use it. 5. What is the source of sulphocarbolate of zinc? 6. What preparation of iron is used in erysipelas? The dose? How often repeated, and mode of administration? 7. For what pathologic lesion would you use iodin? 8. What is the dose of calcium sulphid? Potassium chlorate? Potassium bromid?

Texas June Report

Dr. R. H. McLeod, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Austin, June 28-30, 1910. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 139, of whom 135 passed, including 6 osteopaths,

and 4 failed. The college and year of graduation for one candidate who failed was not obtained. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
University of Alabama	(1875) 75; (1910)	83.7
Georgetown University	(1909)	86.4
Atlanta College of Phys. and Surg.	(1902) 77.2; (1910)	75
Medical College of Indiana	(1900)	81.9
Louisville Medical College	(1906)	81.9
Louisville and Hospital Medical College	(1908)	83.9
University of Louisville	(1894) 75; (1909)	82.3
Kentucky School of Medicine	(1876)	75.7
Tulane University of Louisiana (1904) 78.4; (1909) 78.5; (1910) 78.7, 82.5, 82.5.		
University of Maryland	(1904)	75
College of Physicians and Surgeons, Baltimore	(1910)	84.8
Harvard Medical School	(1888)	75
Kansas City Hahnemann Medical College	(1910)	89.9
American Medical College, St. Louis	(1910)	82.9
Barnes Medical College	(1910)	78.3
St. Louis College of Physicians and Surgeons	(1909)	77.8
Kansas City Medical College	(1882)	75
Missouri Medical Coollege	(1873) 75.2; (1876)	75.8
Bellevue Hospital Medical College	(1885)	76.5
North Carolina Medical College	(1909)	84.1
Jefferson Medical College, Philadelphia	(1895)	81.7
Woman's Med. Coll. of Pennsylvania	(1896) 79.9; (1905)	92.4
University of Pennsylvania	(1860) 75; (1907)	90.8
University of Tennessee	(1907) 86; (1910)	83.3
University of the South	(1908)	81.2
Vanderbilt University (1890) 75; (1909) 85; (1910) 82.7, 84.8, 89.7.		
Memphis Hospital Medical College (1902) 85.7; (1903) 79.9; (1907) 84.7; (1909) 75.5, 86.7; (1910) 75.7, 78.8, 79.2, 79.8, 90.5.		
College of Physicians and Surgeons, Memphis	(1907)	79.3
Meharry Medical College (1909) 80.8; (1910) 75, 75, 91.6.		
University of Nashville (1904) 77.3; (1909) 78; (1910) 75.		
Baylor University 75.5 (1910) 79.9, 80.4, 80.7, 83.6, 86.7, 89.5, 90.3.		
Fort Worth University (1910) 75, 75.6, 79.7, 80.4, 80.7, 81.2, 82.1, 82.7, 82.9, 84.3, 84.4, 84.5, 84.7, 88.2, 88.3, 93.3, 93.3, 90.8, 90.9.		
Southwestern University Medical College, Dallas (1910) 76.6, 77, 79.5, 80.9, 81, 82.4, 82.5, 84.3, 85.3, 86.2.		
University of Texas (1906) 86.4; (1907) 75.6; (1910) 77.7, 79.5, 79.8, 80.8, 81.1, 83, 83.2, 83.7, 83.8, 84.7, 84.9, 84.9, 85.6, 85.7, 86.2, 86.6, 87.3, 87.4, 87.5, 87.7, 87.8, 87.8, 88.1, 90, 90.1, 90.5, 90.8, 91.5, 91.7, 92.4, 95.5.		
FAILED		
Louisville Medical College	(1890)	51.8
Maryland Medical College	(1905)	65.6
St. Louis College of Physicians and Surgeons	(1909)	69.3

The following questions were asked:

ANATOMY

1. Give the origin, relation, course and distribution of the posterior tibial artery. 2. Give the muscles of the orbital region, describing one, giving its attachments and insertion with its action and nerve supply. 3. Describe the posterior triangular space of neck, naming the structures found therein, together with their relation to each other. 4. Describe the ulna, giving its muscular attachments. 5. Describe knee joint, giving the osseous and ligamentous structures that enter into its formation. 6. Describe the collateral circulation around the elbow. 7. Describe the perineum, giving the nerve and blood-supply to the parts, together with their source and relations. 8. Name the extensor group of muscles of the forearm; describe one fully, giving its attachment and insertion, together with its action and nerve supply. 9. Describe the brachial plexus of nerves. 10. Outline and give a gross description of the liver, together with its relation to the internal organs.

BACTERIOLOGY

1. Describe the Gram method of staining. 2. Name three pathogenic bacteria that are stained by the Gram method. 3. Name or give examples of three different bacteria which do not stain readily. 4. Describe the process of staining blood. 5. In normal blood, stained, describe the various cells. 6. Name three different pus-producing bacteria. 7. What are the chief effects of bacterial growth? 8. Before being accepted as the cause of a given disease a germ must conform to what is known as "Koch's Four Laws"; name them. 9. In diagnosis, name the means for identifying bacteria. 10. What are ptomains and toxins?

PATHOLOGY

1. Panaritium tendinium: Give its pathology and give reason why a felon of the thumb and little finger is more liable to spread into the palm of the hand than felon of the three middle fingers. 2. Wounds: In a wound of any kind, septic or aseptic, certain principles of treatment if faithfully carried out, will greatly contribute toward a union by first intention. Name these principles. 3. Poisons: Caustics and irritants—describe their effects on the body tissues and how these effects are brought about. 4. Give causes of catarrhal jaundice and its effect on the system. 5. Give pathology of pleurisy and name the two diseases it most commonly occurs in as a complication. 6. Give pathology of phlegmonous tonsilitis. 7. Give pathology of yellow atrophy of the liver. 8. Name three varieties of sarcoma and describe the cells of each variety named. 9. Typhoid fever: Give its cause and pathology. 10. Dermoid cysts: To what class of tumors do they belong, and on what parts of the body do they most frequently occur?

HISTOLOGY

1. Describe the histologic structure of the skin. 2. Describe the histologic structure of the pancreas. 3. Describe the histologic structure of the tonsils. 4. Where is unstriped muscular tissue found? 5. Describe the Pacinian corpuscle. 6. Give the histologic difference between the wall of an artery and the wall of a vein. 7. Name the genital organs of the male system and describe the vas deferens. 8. Name the genital organs of the female system, and, if any, what is the difference between the mucosa of the body of the uterus and that of the cervix? 9. Enumerate the different epithelia, giving a locality or organ in which each predominates. 10. Describe the microscopic appearance of a cross-section of a nerve-fiber.

CHEMISTRY

1. Give toxic symptoms of bismuth; (b) say how they may occur; (c) and describe a test for same. 2. Give symptoms of fatal dose, and (b) treatment of ammonium hydroxid poisoning. 3. Give Graham's law covering diffusion of gases. 4. The presence of ammonia in excess of 0.05 mg. per liter in water indicates what? 5. What is acetone? (b) clinical significance. (d) Describe a practical test for same. 6. Define hemoglobinuria and give test for hemoglobin. 7. Give a simple, practical test for pus in the urine. 8. What is muscarin; (b) where found; (c) symptoms of poisoning; (d) antidote? 9. How is the specific gravity of a gas determined? 10. Differentiate dialysis and osmosis.

PHYSIOLOGY

1. Name the nerves supplying the tongue; (b) give the function of each. 2. Give the velocity of the blood flow in the large arteries; (b) capillaries; (c) give time necessary for a complete circulation of the blood; (d) give velocity of nerve impulse. 3. To classify all the senses as external and internal; name five belonging to each class. 4. Give action and tell where found of the following enzymes: (b) amylopsin; (c) invertase; (d) lipase; (e) pepsin; (f) erepsin. 5. What tissues of the body possess marked power of contractility? 6. Name the nerves supplying the heart; (b) give function of each. 7. What artificial stimuli may produce muscular contraction? 8. What is the normal blood-pressure in an adult, expressed in mm's.? 9. Define the following terms: (b) tidal; (c) complemental; (d) supplemental; and (e) residual air; and (f) vital capacity. 10. Define (a) miosis; (b) mydriasis; (c) eupnea; (d) necremia; (e) hydremia; (f) choluria; (g) biotomy; (h) albuminuria; (i) alopecia; (j) chemosis.

MEDICAL JURISPRUDENCE

1. Give the eight varieties and classification of insanity. 2. What is meant by justifiable abortion? (b) Differentiate justifiable abortion from criminal abortion. 3. Give the chemical tests of blood. 4. What is meant by rape? (b) Give the three important constant symptoms or signs as medical testimony in alleged rape. 5. What do you understand by age of consent in reference to rape? 6. Give common cause of death from wounds. 7. Describe death from and give the post-mortem signs of strangulation. 8. Describe, define and differentiate illusion, delusion and hallucination and the lucid interval. 9. What are the effects of exposure to extreme heat? 10. By what means may the dead be identified?

PHYSICAL DIAGNOSIS

1. Give the physical signs of Raynaud's disease and describe the different grades. 2. What is meant by dyspnea? In what disease is it a prominent symptom? 3. Name six causes for the displacement of the cardiac apex. 4. Name the points to be noted when taking the pulse. 5. Give the most important signs of thoracic aneurysm. 6. Name the different groups of emphysema and describe each briefly. 7. What organs can be felt through the abdominal walls by palpation? 8. Name the most common diseases affecting the peritoneum and the commonest cause of local peritonitis. 9. What is meant by jaundice and give some of the causes? 10. Name some of the symptoms of intestinal diseases.

SURGERY

1. How do you prepare patients for the administration of anesthetics? 2. How do you treat acute synovitis? 3. How is the callus disposed about a fracture? 4. What are the causes of gangrene? 5. What complications accompany fractured ribs? 6. What symptoms denote malignant disease of the prostate? 7. What changes take place in strangulated hernia? 8. What precautions are observed in excising a joint? 9. Under what circumstances should the head of the femur be excised? 10. Give differential diagnosis between intracapsular fracture and extracapsular.

OBSTETRICS

1. Describe the human embryo during the fourth, sixth and eighth months, giving the appearance and weight. 2. What effect would double ovariotomy have on the fetus of five months' gestation? 3. Describe changes occurring in the blood during gestation. 4. What are the effects of an acute zymotic disease during pregnancy on (a) mother, (o) child? 5. What are the dangers to (a) mother; (b) the child, from gonorrhea during pregnancy and labor? 6. What is the significance of glycosuria during pregnancy and the frequency of its occurrence during pregnancy? 7. Causes, pathology and treatment of puerperal eclampsia and the danger signs of impending eclampsia. 8. Give the varieties of puerperal eclampsia and their differential diagnosis. 9. What is Tavnier's signs of inevitable abortion? Give its importance in the diagnosis of inevitable abortion. 10. Give formation of caput succedaneum and where does the caput succedaneum appear in the third position?

GYNECOLOGY

1. Give clinical symptoms of stenosis of the cervix and give remedy. 2. Give differential clinical diagnosis of cervical stenosis and atresia of the vagina. 3. Give the classifications and causes of dysmenorrhea. 4. Give the causes of and remedy for procidentia. 5. Give differential diagnosis of ovaritis and appendicitis in a young woman. Would you or would you not advise operative procedure in either condition? 6. For what pathologic condition would you advise amputation of the cervix? 7. What are the relations between menstruation and ovulation? 8. Give the hygiene of the menstrual period. 9. What is artificial menopause, its etiology and the pathologic conditions that justify it? 10. When and for what purpose would you use the following suture material: silk, silkworm gut, plain catgut, chromic catgut and silver wire, in gynecologic work?

HYGIENE

1. Why and how is carbon dioxid deleterious to health? 2. Name the chemical germicides most commonly used and the proportions employed. 3. What is the difference between fermentation, oxidation and putrefaction? 4. Mention the preventable epidemic diseases and state how you would stop the spread of each. 5. Name and describe the principal chemical elements of food, giving the use of each. 6. What is the effect of alcohol on the nerve centers, circulation? 7. How are impurities in water classified? How can they be detected, and why is the presence of organic material in drinking water deleterious? 8. Give the principal factors on which natural and acquired immunity depends. 9. Give period of detention of persons exposed to the following infectious diseases: smallpox, measles, scarlet fever, diphtheria, cholera, typhoid fever and yellow fever. 10. Give the formation of the four standard disinfecting solutions.

Book Notices

DISEASES OF THE STOMACH AND UPPER ALIMENTARY TRACT. By Anthony Bassler, M.D., Visiting Gastro-Enterologist to the People's Hospital. Cloth. Price, $6. Pp. 836, with 108 illustrations. Philadelphia: F. A. Davis Co., 1910.

The contributions of American authors to the literature of gastric disorders have been notable from Beaumont's time to the present; several excellent works on diseases of the stomach by Americans are fit to rank with those of the best foreign authors. This series of notable works is worthily continued by the book under consideration. The results of modern investigation are fully presented, including a considerable amount which is original with the author. The anatomy and physiology of the digestive organs are considered in a brief but practical manner. The section on physiology includes a statement of the principles of nutrition and heat production. The methods of examination are exhaustively described. Bassler gives much credit to the method of auscultatory percussion which has been slightingly handled by some authors. This section of the book is illustrated by fifteen plates, showing *x*-ray pictures of the stomach in various conditions. Considerable light is thrown on the difficulties experienced in removing stomach contents through the tube by the author's skiagraphs of a stomach-tube filled with bismuth paste and introduced into stomachs of various sizes and conditions. In the chapter on diet are some valuable tables on the composition of foods. Therapeutics are carefully considered, and the opinions expressed are sound and embody some of importance that have waited for this volume to find expression. The fact that alcohol increases the acid but not the pepsin of the gastric juice and that its action is therefore pathologic is carefully explained; the remedy is not recommended unless in exceptional cases. Digestive ferments find almost no place in the author's therapy. He also calls attention to the fact that stomach mucus is primarily protective and does not usually need to be removed. The clinical section dealing with the various diseases of the stomach gives a large mass of data well worked out and contains a practical guide for the treatment of these diseases by the general practitioner as well as by the specialist.

Some minor errors may be noted which undoubtedly will be corrected in the next edition. It would seem that so well-informed an author ought to recognize the rights of modern chemical nomenclature and no longer refer to the fats as hydrocarbons. A more serious error occurs on page 185 where the use of potassium chlorid instead of the chlorate is directed in performing the iron test for blood. The author states that Boas-Oppler bacilli do not stain with iodin, while such staining is mentioned by other authors as one of their chief characteristics. An error has been made in describing the method of nitrogen estimation on page 267. The amount of urea would be found by multiplying the nitrogen found by 2 instead of 20. Legal's test for acetone (p. 190) is simplified by the omission of sodium nitroprussid; this occurs possibly by mistake, but it is doubtful if the directions will prove a very useful guide in their present form. The description of Strauss' method of examination for lactic acid (p. 178) is incorrect and impracticable. Other mistakes have been allowed to slip through; thus the calorific power of butter is put at 475 calories per pound, evidently 10 times too low. The Latin of the prescriptions is decidedly faulty, the genitive endings having been frequently omitted. A gradual transition from Latin to English prescriptions is indicated by the mixed variety, in which both languages are employed indiscriminately, thus:

℞.	Bismuthi subnitratis	6.0
	Cerii oxalatis	2.0
	Peppermint sugar	3.0
	Fiat Chart. No. x.	

Obsolete or unusual words are used. In the haste of composition the grammatical construction has frequently been allowed to shift for itself. Although it is distasteful to criticize the literary style of so good an author, we feel that the attention of the publishers should be called to the matter.

DYSPEPSIA: ITS VARIETIES AND TREATMENT. By W. Soltau Fenwick, M.D., Doctor of Medicine of the University of Strasburg, Cloth. Price, $3 net. Pp. 485, with illustrations. Philadelphia: W. B. Saunders Co., 1910.

Under the term "dyspepsia"—a very indefinite one for the title of a medical book in an age of scientific precision—Fenwick includes nearly all affections of the stomach and intestines. The author comments on the failure of treatment which adheres too closely to the indications derived solely from laboratory examinations; he calls attention to the fact that drugs which are supposed to control gastric motility or secretion seldom do what is expected of them. The influence of the mind and nervous system on the stomach is recognized. The etiology of dyspepsia involves the consideration of the influences flowing from other organs and from various general pathologic states. These receive special attention in the work. The irritating effect of various foreign bodies, such as hair balls, insects and other living creatures, seldom more than noticed by other authors, receive due attention.

Notwithstanding the critical attitude toward laboratory work, a sufficient account of the results of these investigations has been incorporated in the account of the symptomatology. The value of the book lies in its comprehensive treatment of the subject from the clinical standpoint. The introduction of laboratory technic, which the limits of the work preclude from being completely described, might better have been omitted. Thus in the account of intestinal indigestion two chemical methods quite beyond the skill of the average practitioner are introduced, but the more feasible methods of microscopic examination are merely mentioned. The significance of the findings is very inadequately discussed. With these exceptions the book presents little to criticize and its utility to the average practitioner is enhanced by the fact that it treats the subject from a somewhat unusual point of view.

ANATOMY, DESCRIPTIVE AND APPLIED. By Henry Gray, F.R.S., Fellow of the Royal College of Surgeons. Eighteenth Edition. Revised and re-edited by Edward A. Spitzka, M.D., Professor of General Anatomy in the Jefferson Medical College, Philadelphia. Cloth. Price, $6 net. Pp. 1,496, with 1,208 illustrations. Philadelphia: Lea & Febiger, 1910.

It seems scarcely possible that new editions of text-books on anatomy can present much that is new, yet the eighteenth edition of this well and widely known work contains many new ideas intended to increase its value as a text-book. Much of the text has been rewritten and rearranged, the new arrangement being according to sequence of subjects, so that the student receives his knowledge of parts in the order of their anatomic dependence. The spleen and suprarenals have been placed among the ductless glands. The urinary and generative organs are placed together in a chapter on "The Urinogenital Organs." The chapters on the surgical anatomy of hernia and on the dissection of the peritoneum have been omitted, the descriptions being given only in their proper place. Ample directions are given for dissecting. Embryology and histology come in for their usual share of consideration. The name of each structure is printed in black-face type followed by the Basel nomenclature in italics; thus it is easy to find a given reference on a certain page.

Although the text has been enlarged considerably, smaller type has been used freely, so that the size of the book is not increased, and by condensation and omission of duplications, such as those mentioned, the work is made more compact. On the whole, the book has not lost any of its good features; many new ones have been added, and the objectionable features found in the previous edition have been removed. The editor is to be congratulated on the successful completion of a very difficult task in this revision.

HYDROTHERAPY. A Work on Hydrotherapy in General, Its Application to Special Affections, the Technic or Processes Employed and the Use of Waters Internally. By Guy Hinsdale, M. D., Secretary of the American Climatological Association. Cloth. Price, $3.50. Pp. 466, with 145 illustrations. Philadelphia: W. B. Saunders Co., 1910.

The neglect of physiologic remedies, of which many physicians in the past have been guilty, is rapidly being replaced by an active interest in these useful therapeutic agents. As one of the most valuable, hydrotherapy has received a good share of attention during the past few years, a fact which is evidenced by the number of books that have appeared on the subject.

In spite of this, Dr. Hinsdale's book needs no apology, since it presents the subject in a clear and untechnical form and its author does not attempt to convey the idea—as do so many who write on special forms of therapy—that this particular method of treatment is the last word in therapeutics. As the author says, while he "is a firm believer in using physiologic therapeutics wherever possible, he by no means wishes to exclude the use of drugs," because he believes that "rational therapeutics calls for their use." The book deals not only with hydrotherapy as the term is usually understood—including balneotherapy—but also with crounotherapy or the internal use of mineral waters. The larger part of the volume, naturally, is devoted to the subject of hydrotherapy, which for convenience has been divided into three parts: general hydrotherapy, special hydrotherapy and the technic of hydrotherapy.

The value, and also the limitations, of the use of water in various diseased conditions are conservatively and plainly stated and the methods of getting the best results from the use of this agent are described.

THE SURGERY OF CHILDHOOD. Including Orthopedic Surgery. By De Forest Willard, M.D., Professor of Orthopedic Surgery, University of Pennsylvania. Cloth. Price, $7. Pp. 800, with 729 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

This complete treatise on the surgery of childhood covers an enormous amount of ground, especial emphasis being laid on orthopedic conditions. In view of the great amount of material to be covered, numerous non-surgical conditions that are described might well have been omitted; for example, thrush, aphthous ulcers, masturbation, spermatorrhea, scurvy, earache, etc.

Under the treatment of scurvy rickets, only oil of erigeron and epinephrin are mentioned to stop the bleeding from the gums; no mention is made of fruit-juices, nor is the possibility of mistaking a subperiosteal hematoma for an acute osteomyelitis mentioned. In the surgery of pyloric stenosis, divulsion is advocated. This is not in agreement with the literature on this subject. As long as mastitis of the new-born is mentioned, there seems to be no good reason for omitting the fact that abscesses do occur and need surgical attention.

In spite of a few minor points, largely non-surgical, on which the book needs revision, it covers the subject very completely, especially in the chapters dealing with the tuberculous lesions of bones and joints, which are very profusely illustrated with photographs and *x*-ray pictures.

OSTEOLOGY AND SYNDESMOLOGY. By Howard A. Sutton, M.D., Assistant in the Department of Anatomy of the University of Pennsylvania, and Cecil K. Drinker, B.S. Cloth. Price, $1.50 net. Pp. 225. Philadelphia: P. Blakiston's Son & Co., 1910.

This is a quiz-compend of about 200 pages, and probably answers the purpose of such questionable productions. There are no illustrations. Referring to the necessarily laborious task of learning the bones and joints from the regular descriptive works, the authors say, "it is the hope of the authors that in presenting this small volume they remove the need for such tedious labor."

It may well be asked, "When will students ever have more time for studying the bones and doing this 'tedious labor' than when they are students?" Again quoting, "In the preparation of the text the author has consulted Morris,' Piersol's Gray's, Cunningham's and Swan's anatomies. . . . " Why deprive the student of the advantage of getting this information at first hand, embellished with the good descriptions and illustrations in the complete works, having the stamp of authority—so far as that goes? Why give him in their stead the bare details devoid of illustrations and the vitality of good descriptions so necessary to the proper comprehension of his subject?

A TEXT-BOOK OF MENTAL DISEASES. By Eugenio Tanzi, Professor of Psychiatry in the Royal Institute of Higher Studies of Florence. Authorized Translation from the Italian by W. Ford Robertson, M.D., C.M., Pathologist to the Scottish Asylums, Edinburgh, and T. C. MacKenzie, M.D., F.R.C.P., Edin., Medical Superintendent, Inverness District Asylum. Cloth. Price, $7. Pp. 803, with 132 illustrations. New York: Rebman Company. 1910.

Tanzi's classification is rather more simple than Kraepelin's. He separates melancholia from mania and circular psychoses, however. He places idiocy among the cerebropathies, thus separating it from imbecility, which he puts among the degenerative mental anomalies. The book includes chapters on the seat of the psychic processes, the causes of mental diseases, anatomic substratum of mental diseases, sensibility, ideation, memory, the sentiments, movements and other external reaction, classification of mental diseases, pellagra, alcoholism, amentia, the thyroid psychoses, progressive paralysis, infantile cerebropathies, adult cerebropathies, the affective psychoses, neurasthenia, hysteria, epilepsy, dementia præcox, sexual perversions, constitutional immoralities, paranoia, imbecility and asylums. The translation is remarkably good.

A STUDY OF MELTING-POINT DETERMINATIONS. With Special Reference to the Melting-Point Requirements of the U. S. Pharmacopeia. By George A. Menge. Hygienic Laboratory. Bull. No. 70. P. H. and M.-H. S. of the United States. Paper. Pp. 101, with 20 illustrations. Washington: Government Printing Office, 1910.

In view of the importance of the melting point of a chemical substance, both as a means of identification and control of purity, and because of the widely varying methods of carrying out this determination, the whole subject has been carefully and thoroughly reviewed and discussed in this bulletin. From a survey of the existing methods and the results obtained by these methods, the author has devised an apparatus and technic which is simple and inexpensive, yet accurate. The method was thoroughly tested and found to be satisfactory, as shown by the many results tabulated in the bulletin. Menge recommends the apparatus and method for adoption as the official method for the United States Pharmacopeia.

INSANITY IN EVERY-DAY PRACTICE. By E. G. Younger, M.D. Brux, Senior Physician, Finsbury Dispensary. Second Edition. Cloth. Price, $1.25. Pp. 124. Chicago: Chicago Medical Book Co., 1910.

This little volume is prepared especially for the general practitioner; and, unlike many books with this ostensible aim, it is actually helpful, as it endeavors to present in a simple and easily assimilated form essential and important facts regarding various types of insanity and their legal aspects. Noticeable and commendable are the absence of complicated nomenclature, the concise discussion of the various forms of insanity, and the rational arrangement of the contents. The appendix contains copies of various legal forms. The book can safely be recommended to the general practitioner.

TOBACCO AND ITS DELETERIOUS EFFECTS. A Book for Everybody, Both Users and Non-Users. By Charles E. Slocum, M.D., Member of Local, Ohio State and the American Medical Associations. Cloth. Price, $1. Pp. 70. Toledo: The Slocum Publishing Co., 1909.

This author does not leave any room for doubt as to his opinion of the use of tobacco. While his strong feeling on the subject may be justified, his indiscriminating and unanalytic amassing of testimony and his lack of judicial serenity tend to make the reader discount the statements of supposed facts. Since there is a real need for a scientifically authoritative statement of the injury and waste caused by tobacco, it is to be regretted that this book is not more scientific in its citations and more restrained in its style.

DIE PRAXIS DER LOKALEN ANÄSTHESIE. Von Dr. Artur Schlesinger, Berlin. Cloth. Price, 5 marks. Pp. 160, with 22 illustrations. Vienna: Urban & Schwarzenberg, 1910.

The increasing frequency of the use of local, instead of general, anesthesia and the widely scattered state of the literature on this subject make Dr. Schlesinger's little book a welcome addition to our working library. About one-half of the work is devoted to the history, means and methods of use, the remainder to the technic, of local anesthesia as applied to special regions. It is written in such fashion that one having no personal experience may safely follow its guidance, while the specialist will find it replete with information on the methods of to-day.

HISTORY OF MEDICINE. By Max Neuburger, Professor of Medical History in the Imperial University of Vienna. Translated by Ernest Playfair, M.B. In Two Volumes. Vol. I. Cloth. Price, $9. Pp. 404. New York: Oxford University Press, 1910.

This volume, which contains a preface by Dr. William Osler, gives the history of medicine from primitive times down through the middle ages. The subject-matter is presented as a more or less continuous narrative, in a style which at once attracts and holds the interest of the reader. As an added advantage, the text of the book has been printed in large type, while in smaller type appear numerous references and details. This will be a valuable addition to the library of any one interested in the history and progress of medicine.

ATLAS DER RECTALEN ENDOSKOPIE. Nebst einer Einführung in die Technik der rectalen Endoskopie. Von Dr. Arthur Foges, Wien. Second Edition. Price, 14 marks. Paper. Pp. 102, with illustrations. Wien: Urban & Schwarzenberg, 1910.

The second and concluding part of this work fully maintains the high standard of excellence reached in the plates and text of the first part, noticed in THE JOURNAL, Feb. 12, 1910, p. 563. The complete work with its practical text and artistic plates is one of great value to the student or specialist in proctology.

Medicolegal

Validity of City Ordinance Regulating Location of Private Hospitals, Especially for the Insane

The Supreme Court of Washington, in Shepard and others vs. City of Seattle (109 Pac. R. 1067), affirms a judgment dismissing an action to restrain the city from enforcing an ordinance regulating the location and maintenance of private hospitals and sanatoriums, brought by the owners and lessees of certain property used for a sanatorium for the treatment of persons suffering from nervous and mental diseases, including insane persons. The ordinance provided that no private hospital or sanatorium should be established or maintained within the city in any building in which any of the sinks or water closets or other drainage were not connected with the public sewers of the city, nor should any private hospital or sanatorium for the treatment of inebriates or persons suffering from insanity or other mental diseases be established or maintained in any buildings situated within 200 feet of any private property the owner of which had not consented in writing to the location and maintenance of such hospital or sanatorium, nor in any building without the written permit from the commissioners of health of the city.

It was contended that a private sanatorium for the care of persons suffering from insanity or other mental diseases is not a public nuisance in and of itself, and cannot be made a public nuisance, if not such in fact, by a mere declaration of a municipal legislature; that this ordinance deprived the plaintiffs of their property without due process of law, and denied to them the equal protection of the law, in violation of the state and federal constitutions. But no question was involved here as to the power of the city, as contradistinguished from the power of the state itself, the court says, for in all matters appertaining to the public health and public safety substantially the entire police power of the state is vested in municipal corporations of the first class, in the state of Washington.

Furthermore, the ordinance applied to different kinds of hospitals and sanatoriums, and prescribed different requirements with which those desiring to establish and maintain such institutions must comply. The provisions of the ordinance were severable, both as to the character of the institution and the requirements to be met or complied with. Some of those requirements might be valid and others invalid, or they might be valid as to one kind of an institution and invalid as to another.

The case of Bessonies vs. City of Indianapolis, 71 Ind. 189, would sustain the provision of the ordinance requiring hospitals to connect with the public sewers of the city—at least such hospitals as harbor persons suffering from infectious or contagious diseases. Whether reasonable as to a hospital of the character here in question, the court need not inquire, for it was convinced that the second requirement of the ordinance was both reasonable and valid.

The ordinance in effect declared that any private hospital or sanatorium for the treatment of inebriates, or persons suffering from insanity or other mental diseases, was a public nuisance, and should be abated as such, unless its location and maintenance were consented to in writing by the owners of private property situated within 200 feet of the hospital buildings. This, in the court's opinion, was a valid and reasonable police regulation. The presence of a private insane asylum, with its barred windows and irresponsible inmates, would annoy, injure and endanger the comfort, safety, and repose of any person of average sensibilities if located within 200 feet of his place of abode. In other words, it is a matter of common knowledge that the presence of such an institution in a residential portion of a city would practically destroy the value of all property within its immediate vicinity for residence purposes. If so, it was proper and competent for the municipal authorities to require the assent of the injured parties to its location and maintenance. Hospitals for the treatment of patients suffering from infectious and contagious diseases have often been adjudged nuisances, when located in the residential parts of cities and towns, and danger from the immediate presence of a hospital of this kind differs in kind rather than in degree.

The third requirement of the ordinance was a written permit from the commissioners of health, but that requirement was apparently for the purpose of showing that the other provisions of the ordinance had been complied with. In any event the requirement was unobjectionable in itself.

The contention that the ordinance was void because it was admitted that it was enacted at the solicitation of persons residing in the vicinity of said premises and solely in their behalf as a local and special regulation, is answered by the court's saying that it was not permitted to inquire into the motives of the city council. If the ordinance was valid on its face, the reasons or arguments that might have moved the city council to act were not pertinent here.

There are many unpleasant and annoying things that must be borne by those living in a state of organized society, in order that others may enjoy their equal rights under the law, but the preservation of the public health and safety is one of the chief objects of local government, and every citizen holds his property subject to a reasonable exercise of the police power of the state. In the court's opinion this ordinance was a reasonable and proper application of the maxim, "So use your own as not to injure another's," and was sustained by the maxim, "The welfare of the people is the supreme law," in which the police power of the state finds its chief support.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

December 31

1 Surgical Methods of Treating Hyperthyroidism. C. H. Mayo, Rochester, Minn.
2 Experiences with Salvarsan. W. S. Gottheil, New York.
3 Mental Disturbances Following Traumatism; Medicolegal Considerations. A. Gordon, Philadelphia.
4 *Long-Continued High Blood-Pressure; Its Results and Prevention. W. H. Sheldon, New York.
5 *Approximate Estimation of Protein Contained in the Cerebrospinal Fluid. D. M. Kaplan, New York.
6 *Mercury Succinamid in Treatment of Tuberculosis. L. S. Peters, Silver City, N. M.

4. **Long-Continued High Blood-Pressure.**—Attention is called by Sheldon to the fact that high blood-pressure is a condition and not a disease. He says that long-continued high blood-pressure produces a condition whereby there is leakage of cardiac energy. The arterial tree in health maintains diastolic pressure in normal relation to systolic. In cases of long-continued high blood-pressure there is failure of diastolic pressure to maintain its normal relation, therefore, there must be lessened elasticity of the arteries. The increased strain on the heart is in accordance with the amount of the

diastolic failure. In a series of thirty patients examined by Sheldon, the average pulse-pressure was 78.5 mm., while a normal arterial tree will give a pulse-pressure of from 20 to 40 mm. Therefore, there was a loss of from 38 to 58 mm. of high pressure. It would seem, he says, that in these cases the high systolic pressure was in the nature of a compensatory act, as in order to maintain a diastolic pressure of 108.7 it was necessary to have a systolic pressure of 187.2. There are signs of poor circulation with high systolic pressure if the diastolic pressure is relatively low. Sheldon is convinced that if attention were paid to the first indication of increased pressure and the cause removed, the inevitable bad results noted could be prevented. When the pathologic condition of failure of diastolic pressure has been established, efforts should be directed toward maintaining the compensation of the heart.

5. **Estimation of Protein in the Cerebrospinal Fluid.**—The technic of the test used by Kaplan is: 1. Centrifugalize the fluid and use the supernatant liquid. 2. Into each of five small test tubes introduce from 0.1 c.c. to 0.5 c.c. of clear fluid. The obtained fluid must be blood-free. 3. Heat the first tube (0.1 c.c.) gently and add 2 drops of a 5 per cent. butyric acid solution and heat until it bubbles—but does not spurt. 4. Holding the tube almost horizontally permit 0.5 c.c. of a supersaturated ammonium sulphate solution to float on top of the cerebrospinal fluid. The same is performed with the other tubes. 5. Stand aside, noting the time when the last portion of ammonium sulphate was added to the 0.5 c.c. tube. In case of a protein excess, a distinct ring appears in the middle of the fluid. The ring appears in from 5 to 25 minutes after being set aside, is of a coarse granular appearance (cheesy) of a cream color. The greater the protein content the more apparent the appearance of the ring in the tubes with the smaller amounts of cerebrospinal fluid. The rings that appear later than 25 minutes are not characteristic. Negative fluids at times show a ring, but it takes from thirty minutes to over one hour before its appearance and the rings in this case are not composed of the coarsely granular material which is seen in the case of fluids with a protein excess. Compared with other methods, Kaplan's reaction is said to conform to clinical diagnosis and other laboratory results oftener than the protein reaction of Nonne and Noguchi.

6. **Mercury Succinamid in Tuberculosis.**—Peters' work covers a series of twenty-three patients treated in a closed institution under perfect dietetic and hygienic conditions. An analysis of his work shows the following results: Stationary, six; died, two; failed, nine; improved, four; cured, two. It is interesting to note that of the six patients classed as improved or cured four were syphilitic and two, cases of simple tuberculosis. One syphilitic made rapid gain under mercury but developed in the course of treatment a neuritis which was extremely painful and because of which the injections were abandoned. He went down rapidly from then on and is now a hopeless case. The other syphilitic who failed gained for a time, but from a pulmonary standpoint was hopeless in the beginning. Of the two non-syphilitic individuals one improved and one recovered. Peters, however, is firmly convinced that either would have done the same under any treatment, for both were excellent patients with little pulmonary involvement. Of the nine who failed and the six remaining stationary, only two were syphilitic. Two who died were also free from any syphilitic taint, one dying of bronchopneumonia following hemorrhage and the other was sent home as hopeless and died a few months later.

New York Medical Journal

December 31

7 *Eggs. R. C. Rosenberger, Philadelphia.
8 The Wassermann Reaction and Salvarsan. T. MacRae, New York.
9 Regulation of Prostitution. M. Glasgow, New York.
10 Rest, Exercise and Food in the Management of Tuberculosis. A. P. Francine, Philadelphia.
11 Climate as a Curative Agent. F. G. Byles, Denver.
12 *A New and Successful Use for Old Staphylococcus Bacterin. B. R. LeRoy, Athens, Ohio.
13 Impetigo Contagiosa Transmitted by Machine Oil. O. V. Huffman, Cincinnati.
14 Magic and Medicine: A Study in the Borderland of Scientific Light and Darkness. J. Knott, Dublin.

7. **Eggs.**—Rosenberger says that if the so-called heated or "spot" eggs contain putrefactive bacteria and if kept in a mixture for some time before disposing of them, poisonous products are generated which may cause symptoms of gastroenteritis and simulate very closely cases of meat poisoning. It is sometimes said by patients who are on a diet of raw eggs that they cannot eat them, that they make them sick or cause diarrhea or other symptoms of gastroenteritis. It can easily be explained if the patients have eaten these spot eggs. Take a patient with tuberculosis who is recommended to eat so many raw eggs a day. If he is too sick to wait on himself, someone might make up a milk punch containing spot eggs, and mild or severe gastroenteritis develops. Or in the making of a salad dressing where great heat is not required, the making of corn starch, of various puddings, or even in baking cakes, these spot eggs may have been used and, perhaps, bring about gastroenteritis in those who eat thereof. If 0.5 c.c. (8 minims) of an egg mixture offered for sale as fit for food purposes will kill a guinea-pig in eight hours, one wholly unacquainted with bacteria or their products will readily see that a potent poison is contained in the eggs and that they are absolutely unfit for food.

It is Rosenberger's opinion that the most rapid and efficient method of determining strictly fresh eggs is by the candling process, but by an expert. Some eggs that are put on sale as fresh eggs open up apparently fresh, yet when the dish is slightly jarred, the admixture of white and yolk is easily accomplished, which, with a perfectly fresh egg, is only accomplished after severe beating. The spot eggs do not uniformly give off an odor, but a mouldy egg does, as well as a black rot or an ordinary rotten egg. Take a fresh egg and shake vigorously for an indefinite time; no admixture of white and yolk is possible in the shell, and everyone knows how impossible it is to mix these two portions in a dish without vigorous beating. To prevent the selling of spot and rot eggs, as well as mixtures of these forms of eggs, either frozen or not, the law should compel the dealers to dispose of them immediately to the manufacturing concerns individually and not leave them for some unscrupulous trafficker or peddler who collects these eggs for personal gain, obtaining them from dealers for almost nothing and disposing of them to small bakeries at from 18 to 20 cents a pound when fresh eggs are bringing from 36 to 48 cents a dozen. When two grades of eggs are offered for sale at a "dairy" or store, it is almost a foregone conclusion that the cheaper ones contain "spots" or are "heated" eggs.

12. **Staphylococcus Bacterin.**—While engaged in making a comparative bacteriologic study of certain parasitic microorganisms found on the bodies of persons suffering from certain forms of insanity, LeRoy had occasion to make and use considerable quantities of the staphylococcus bacterin. A mixed form of the bacterin was made from fresh cultures of the *Staphylococcus pyogenes albus* and the *Staphylococcus pyogenes aureus* in about equal amount. The bacterin was made very strong, and this particular bottleful was made the density of thin cream. The bottle, of 8-ounce capacity, was sealed with paraffin, wrapped in amber-colored paper, and placed in a cool, dark place and forgotten for a space of over two years when it was brought to light and examined. It was found to be separated into two portions, the upper and greater portion was a yellowish serum-colored fluid, the lower portion was of a gelatinous nature and of a deep red color. On agitating the substance it broke up into flakes which became suspended in a homogeneous manner, making a fluid the density of thin cream. Wishing to learn whether it had lost its immunizing power or not, and not caring to inject it into the circulation, LeRoy applied it topically in a case of exaggerated pustular acne, the face, neck, back, breast and arms being covered with the pustules. The diseased surface was painted with a camel-hair brush, frequently shaking the bacterin. At once the skin became intensely red, with considerable sharp stinging pain which lasted for a few minutes; then all was pleasant. The redness subsided within a few hours, and nothing further was noticed. The treatment was given every day, the few unpleasant symptoms becoming less and less until there was practically no reaction whatever following the application of the fluid. The clinical results

were most rapid in action and very pleasing to all concerned. The face cleared up without further pustulation. The comedones dried up and were removed by rubbing the skin briskly with a coarse towel, the comedones rolling out like shot.

In all, twenty-eight patients have been treated in this manner without a failure. This seems remarkable when it is recalled that the bacterin is now over three years old, is sterile, is without odor or signs of change other than what has been mentioned. This substance is being used on a case of rhinophyma with the most gratifying results, the surface of the nose being painted with the solution mentioned in the foregoing article. The solution has been used in cases in which suppuration has been part of the trouble, regardless of the other conditions present, with the same result as mentioned in the cases of acne.

Lancet-Clinic, Cincinnati

December 17

15 *Action of Heart Stimulants. F. C. Askenstedt, Louisville, Ky.
16 The Wassermann Reaction. O. Berghausen, Cincinnati.
17 Salvarsan in Syphilis. M. L. Heidingsfeld, Cincinnati.

December 24

18 The Former Medical Giants of France. F. Dowling, Cincinnati.
19 Salvarsan in Syphilis. M. L. Heidingsfeld, Cincinnati.

15. **Action of Heart Stimulants.**—In the nine cases reported by Askenstedt, strychnin was used seven times, nitroglycerin five times and ammonium carbonate once. Strychnin was administered five times to patients of low blood-pressure, once when arterial tension was normal and once when it was high. Except in a doubtful case of anesthesia, strychnin did not in a single instance show any stimulating effect on the circulation. As the tablets used were obtained from various sources, and some had come as samples direct from the manufacturers, the lack of perceptible action of the strychnin cannot be ascribed to bad pharmacy. In all of the five nitroglycerin cases—each of which presented a hypertension—a reduction of the systolic tension from 10 to 25 mm. invariably took place, lasting not less than one or one and one-half hours after the administration of the drug. Any effect of the nitroglycerin as a heart stimulant, however, is devoid of proof in these cases. The reputed power of digitalis to increase arterial tension was not borne out by the two experiments, either where the tension was low or where it was high. Ammonium carbonate proved inert in the case of complete heart-block. While these heart stimulants were given principally for experimentation, most of them were legitimately used on physiologic indications; in other words, they were such remedies as the average physician would have employed for the conditions presented. Only a few patients knew that an experiment was being carried out, so Askenstedt infers that the therapeutic administration of these stimulants in closely similar cases would produce practically the same results.

New Mexico Medical Journal, Las Cruces

November

20 The New Mexico Medical Society. J. W. Elder, Albuquerque.
21 The Needs of the Profession in New Mexico. R. E. McBride, Las Cruces.
22 A Case of Mitral Regurgitation. J. R. Gilbert, Alamogordo.

Southern Medical Journal, Nashville

December

23 *Safeguarding Society from the Unfit. A. B. Cooke, Nashville.
24 *Exophthalmic Goiter. W. D. Haggard, Nashville.
25 Therapeutic Indications for Thyroid Administration. J. M. Tompkins, Richmond, Va.
26 *Pharmacologic and Clinical Aspects of Hexamethylenamin. L. B. Wiggs, Richmond, Va.
27 A Summary of Cases of Malaria. J. M. Swan, Watkins, N. Y.
28 Pain in Abdominal Disease. W. M. Harsha, Chicago.

23 and 24. Abstracted in THE JOURNAL, Nov. 26, 1910, p. 1919.

26. **Clinical Aspects of Hexamethylenamin.**—It is believed by Wiggs that his experiments show the positive irritant properties of hexamethylenamin. Medium doses of hexamethylenamin continued over comparatively short periods (ten days) will produce renal irritation. Even small doses, if long continued, may produce irritation. In moderate amounts there is an initial increase in the total quantity of urine passed, due to the primary irritation of the kidney structure, but, if the drug is continued for any considerable length of time, there is a diminution in the amount excreted. Toxic symptoms are only noted when there is severe renal irritation. (Animal No. 2 showed a marked tendency to lie about and sleep and altogether looked sluggish and ill, refusing all food while the hematuria was present.) Hexamethylenamin is more effective as an antiseptic if the urine is acid in reaction. It may itself produce in the urine an acid reaction on account of the ammonia radical present, ammonia, as is well known, rendering the urine acid in reaction. The drug—as such—has only mild antiseptic properties and is probably, in part at least, absorbed unchanged.

Wiggs urges that great care must be exercised in administering even small doses of hexamethylenamin, certainly when it is proposed to be used over extended periods. Microscopic examinations of the urine in all patients receiving the drug should be made if possible, or, if this be impracticable, daily examination of the albumin content should be made. After the drug has been adminstered for as long as seven days, bladder and renal irritation may be expected and must be rigidly sought for. When given with care and intelligence this is the most potent genitourinary antiseptic. It is suggested that in patients with alkaline urine some drug be given that will render the urine acid in reaction previous to administration of the hexamethylenamin, which seems to act better in the acid medium.

Western Medical Review, Omaha, Neb.

December

29 Prevention of Venereal Diseases. P. Findley, Omaha.
30 The Work of the Nebraska Orthopedic Hospital. J. P. Lord, Omaha.
31 Induced Pregnancy. G. W. Shidler, York, Neb.

Medical Fortnightly, St. Louis

December 10

32 Material and Methods, the Secret of Success in Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
33 Acute Mania with Unusual Duration of Mental Obliviousness—Recovery. M. R. Hughes, St. Louis.
34 Functional Neuroses, Clinically Reviewed. W. F. Waugh, Chicago.

Illinois Medical Journal, Springfield

December

35 *Acute Epiphysitis of the Hip. J. L. Porter, Chicago.
36 Commitment and Care of the Insane of Cook County. J. P. Houston, Chicago.
37 Our Research Workers. E. B. Coolley, Danville.
38 Therapeutic Nihilism. J. Miles, Merom, Ind.
39 Analytic and Microscopic Study of Pus. L. J. Willien, Terre Haute, Ind.
40 Recognition of Extra-Uterine Pregnancy. A. M. Miller, Danville.
41 Fracture of the Skull. I. L. Firebaugh, Robinson.
42 Surgical Aspects of Hernia. H. N. Rafferty, Robinson.
43 *Aneurysm of the Aorta. C. N. Combs, Terre Haute, Ind.
44 Advantages of Clinical History Writing. B. V. Caffee, Terre Haute, Ind.
45 *Sympathetic Ophthalmia. E. V. L. Brown, Chicago.
46 Diabetes Mellitus. C. F. Newcomb, Champaign.
47 Prevention of Blindness. C. B. Voight, Mattoon.

35. **Acute Epiphysitis of Hip.**—The lesion described by Porter seems to be always confined to the epiphyseal line which looks wider than normal, irregular in outline and somewhat hazy, while the examination of a long series of Roentgen plates of early tuberculosis of the hip shows a wide variation in the location and extent of the tuberculous foci. He says that it seems, therefore, that a better differentiation of these cases from the other recognized forms of acute and chronic infections of the hip must come through a closer study of the clinical findings; they all recover without abscesses or other complications which require invasion of the joint and the opportunities for direct pathologic investigation are lacking. The last five patients who have been under observation, and all of whom have apparently recovered, illustrate the clinical history of this affection. In no case was there a history of trauma. In all cases but one, the onset was so acute that within twenty-four hours the patient could not walk on account of pain. In the oldest patients the onset was less acute and the patient continued to walk but limp and complaint of pain in hip developed very suddenly. In all cases the pain was referred to the groin directly over the joint, and in no case was there pain referred to the knee. In two

cases a slight fulness at the site of the pain in the groin could be seen, suggesting some synovitis but no marked tension. In the other three cases no sign of synovitis could be discovered. In none of the cases during all the course of treatment was there any marked thickening or induration of the peri-articular tissues. All the cases showed marked limitation of motion at the hip, muscular spasm and pain on motion during the earlier stage of the attack. In all the cases the acute symptoms subsided rapidly under rest in bed, though the limitation of motion and some spasmodic contraction persisted for a longer time.

In three patients temperatures were taken at intervals from the start but was found elevated in but two, rising from 1 degree to 1.5 degrees during the first ten days. In the other two patients no temperature was taken until after the acute stage had subsided, when it was found absent. One very noticeable point in all the cases was the very slight degree of atrophy which developed during the entire course of the disease and which might easily be due to the immobilization. In one case von Pirquet's tuberculin test was used and a positive reaction resulted, but strange to say, that patient recovered more quickly than any of the others under continued immobilization and crutches. In one case, after apparent recovery, a marked talipes cavus with slight equinus developed in the foot of the affected leg and has progressed in spite of treatment, though no definite paralysis can be made out and the hip remains perfectly well. In none of these cases was there any history of preceding infection such as typhoid, measles, scarlatina, or diphtheria, which might account for the acute arthritis. The time required for recovery has varied from ten weeks to ten months.

43. **Aneurysm of the Aorta.**—This case of aortic aneurysm is reported by Combs because aneurysm of the inferior portion of the arch and the descending thoracic aorta is a rare variety. Death by rupture into the esophagus adds to its unusual features. The tumor pressure on the left recurrent laryngeal nerve caused voice alteration and a brassy cough. In the early stages, on change of position, the pressure was relieved, the patient's voice returned and thus it was that she was thought hysterical. Pressure on the esophagus caused dysphagia. Pressure on the bronchus caused dyspnea. A weak left radial pulse was due to the oblique course of the left subclavian through the thickened aortic wall and the expansion following the ventricular systole partially closed its lumen. Pain was due to erosion of the vertebræ and also to tumor-pressure in general. Had death been delayed the erosion would soon have reached the spinal cord and produced the final symptom of paraplegia. In this case, the diagnosis was especially difficult because on inspection no tumor was in evidence. That rupture of the sac into the esophagus caused the immediate death cannot be denied in view of the large irregular opening.

45. Abstracted in THE JOURNAL, June 4, 1910, p. 1893.

Journal of the Oklahoma State Medical Association, Muskogee

December

48 The General Practitioner. C. W. Fisk, Kingfisher.
49 Cerebral Meningitis. F. B. Erwin, Norman.
50 Appendicitis. W. T. Tilly, Muskogee.
51 Intestinal Obstruction. J. C. Watkins, Hallett.
52 Management of Fractures of the Extremities. J. A. Foltz, Fort Smith, Ark.
53 The County Medical Society. D. Armstrong, Mead.

American Journal of Orthopedic Surgery, Philadelphia

November

54 *Treatment of Structural Scoliosis. W. Truslow, Brooklyn, N. Y.
55 *Apparatus for Treatment of Scoliosis at Night. F. Lange, Munich, Germany.
56 *Scoliosis Relieved by Operation on the Transverse Process of One of the Vertebræ. Z. B. Adams, Boston.
57 *Pott's Paraplegia. C. F. Painter and G. C. Moore, Boston.
58 *Advantages of Braces over Plaster Jackets in Pott's Disease. H. O. Feiss, Cleveland.
59 *Support for the Spondylitic Spine by Buried Steel Bars, Attached to the Vertebræ. F. Lange, Munich, Germany.
60 Relation Between Clinical Evidence and Pathologic Conditions in Spinal Caries. E. G. Brackett, Boston.
61 Physiotherapy in Sacro-Iliac Conditions. F. E. Peckham, Providence, R. I.
62 Fracture Dislocation of the Shoulder. A. R. Shands, Washington, D. C.
63 *Congenital Absence of the Tibia. T. H. Meyers, New York.
64 *Bone Clamps of Aluminum Wire. L. A. O. Goddu, Boston.
65 A Portable Apparatus for Applying Jackets in Hyperextension. L. T. Brown, Boston.
66 A Splint for Postoperative Hallux Valgus. C. F. Painter, Boston.

54 and 55. Abstracted in THE JOURNAL, July 2, 1910, p. 47.

56. **Scoliosis Relieved by Operation.**—In this case the operation consisted of excision of the lateral process of the fifth lumbar vertebra for abnormal development with scoliosis. The patient suffered considerable discomfort following the operation and complained of the right leg being "dead and immovable." Examination showed knee-jerks active and equal on both sides. There was no apparent sensory disturbance; nor was there swelling or discoloration of that extremity. The general condition was good. The patient suffered slight pain in the wound, but had an uneventful recovery. A few days after operation a plaster jacket was applied. When first allowed to walk the patient shuffled the right foot and complained of hyperesthesia of the dorsum of the foot. Her recovery was eventually a very satisfactory one.

57, 58 and 59. Abstracted in THE JOURNAL, June 11, 1910,, p. 1995.

63. **Congenital Absence of the Tibia.**—Myers operated on this patient in 1905 for congenital absence of the tibia. He transplanted the head of the fibula, and did an arthrodesis at the ankle joint. The result is excellent. The shortening, measured from the anterior superior spine to the ball of the foot where the weight is borne, is now 2 inches, of which three-fourths is in the femur. The shortening was originally 1¾ inches. The right (affected) calf is ¾ inch smaller than the left. The foot is fixed at 135 degrees. There is no hyperextension and no rotation possible at the knee. The boy can extend his leg to 165 degrees strongly and flex it to 90 degrees. The ankylosis at the ankle is firm.

64. **Bone Clamps of Aluminum Wire.**—This clamp is made of aluminum wire, gauge 16 or more, according to the strength required, of any desired length, and with one or more loops at each end, through which screws of deep thread are inserted and thus the clamp is fastened to the bone. The advantages of the use of this clamp over that of the ordinary bone plate or the silver wire, according to Goddu, are as follows: It has been shown that of all materials aluminum produces the least irritation to the tissues; the wire being round, the line of contact with the periosteum is necessarily very slight; even at the time of operation this clamp may readily be bent and made to conform with any deviations of the bones and still maintain its tensile strength; lastly, it can be so applied as to have no contact with the seat of disease. If it becomes necessary to remove the clamp, a small incision may be made in the skin over the site of one end of the clamp, the screws removed and the loops cut off and taken out; a similar incision may be made at the other end and after removing the screw the remaining portion of the clamp can be withdrawn. It has been shown in three incisions of the knee that the patients have experienced decidedly less pain with fixation by bone clamps or plates. The most striking feature in the use of these aluminum clamps is the almost entire absence of pain after operation.

Southern California Practitioner, Los Angeles

December

67 Strabismus in Infancy. F. Baker, San Diego, Cal.
68 Stone in the Bladder and Urethra in Children. L. B. Morton, Pasadena.
69 Cholelithiasis Simulating Appendicitis—Dislocation of Liver. R. Brown, Santa Barbara.
70 Liver Abscess. W. J. Barlow, Los Angeles.
71 Mental Defects Following the Use of Alcohol. J. T. Fisher, Los Angeles.
72 Present Status of Abdominal Drainage. C. P. Thomas, Los Angeles.
73 Mummified Fetus. R. L. Alexander, Tempe, Ariz.
74 Influence of Mixed Blood on the Susceptibility to Infection in the American Indian. R. E. Thomas, Phoenix, Ariz.

Military Surgeon, Washington, D. C.

December

75 The Status of the Medical Corps of the National Guard, in Relation to the Army, the Navy and the Public Health and Marine-Hospital Service. J. K. Weaver, Norristown, Pa.
76 *Tincture of Iodin in the Surgery of War. N. Antelo, Buenos Aires, Argentine Republic.

77 *Treatment of Lobar Pneumonia. E. Jurado y Gama, San Luis Potosi, Mexico.
78 Treatment of Hemiplegia Resulting from Apoplexy. K. S. Yau, China.
79 New Instrument Case of the French Army. Ruotte.
80 *Prophylaxis of Venereal Diseases in the United States Army. L. M. Maus, U. S. Army.
81 *What Can the Navy Do with Its Tuberculosis? C. T. Hibbett, U. S. Navy.

76, 77, 80 and 81. Abstracted in THE JOURNAL, Dec. 24, 1910, pp. 2257 and 2258.

Ophthalmic Record, Chicago

December

82 Ophthalmic Hospitals in Egypt. A. F. MacCallan, Egypt.
83 Two Cases of Interstitial Keratitis and One of Optic Neuritis Treated by Salvarsan. R. Denig, New York.
84 Attachment of the Tendon After Advancement. D. W. Wells, Boston.
85 Parinaud's Conjunctivitis. G. H. Mathewson, Montreal.
86 *Extraction of Cataract in Its Capsule. V. H. Hulen, Houston, Texas.

86. **Extraction of Cataract in Its Capsule.**—Fixing the lens by a small vacuum cup, and gently lifting out of the eye the cataract while yet contained in its capsule, are the essential features of Hulen's operation, one which he has employed successfully in six cases. The operation is done as follows: The preliminary preparations are the same as for an ordinary cataract extraction except the use of atropin in the eye an hour previously. The speculum is introduced and the section made in the limbus includes one-half of its circumference; raising a conjunctival flap above, a small iridectomy is done and the edges of the coloboma replaced. The speculum is now removed and a drop of cocain instilled. Should blood in the anterior chamber exclude the pupil it is removed by a gentle stream of warm saline solution. Next the assistant holds the upper lid with a retractor, controlling the lower lid with the other hand; under no circumstances must he now allow pressure on the globe until the eye is finally closed. The extractor is introduced through the section from the convenient side and gently let down on the lens, making sure the cup is everywhere free of the pupillary margin so that the iris may not be pinched subsequently. The extractor being held in the operator's right hand, the left is free for use as required. The patient should look straight ahead, never down. With the cup resting over the center of the anterior capsule the nurse turns the cock at the gage, the vacuum thus connected will cause the cup to grasp the cataract more rigidly. The extractor is then somewhat elevated and rotated to sever the suspensory ligament; now with the upper edge of the cup slightly raised the cataract in its capsule is slowly and gently lifted out, passing easily through the pupil and section. The edges of the coloboma are replaced and the subsequent management of the case is not different from the usual method.

Virginia Medical Semi-Monthly, Richmond

December 22

87 Ophthalmia Neonatorum. A Plea for Legislative Enactments for Its Prevention. J. A. White, Richmond.
88 Vagaries of Disease in Infancy and Childhood. E. P. Copeland, Washington, D. C.
89 Value of Sanatorium Treatment in Pulmonary Tuberculosis. W. D. Tewksbury, Catawba, Va.
90 Differential Diagnosis of Alcoholic Coma from Other Forms of Coma. L. D. Mason, Brooklyn, N. Y.
91 Syphilis Treated by Salvarsan. M. C. Sycle, Richmond.

Vermont Medical Monthly, Burlington

December

92 Medicine of To-Day and of Thirty Years Ago. J. C. Rutherford, Providence, R. I.
93 Extra-Uterine Pregnancy. E. H. Ross, St. Johnsbury.
94 Auto-Intoxication. E. W. Crane, Hardwick.
95 Diseases of the Upper Abdomen and Their Differential Diagnosis. C. J. Rumrill, Randolph.

Archives of Internal Medicine, Chicago

December

96 *Estimation of Chlorids in the Stomach Contents from Normal and from Atrophic Infants. A. H. Wentworth, Boston.
97 Effect of Treatment on the Wassermann Reaction. H. F. Swift, New York.
98 *Normal Percentages of the Different Varieties of Leukocytes in Infants and Children. O. M. Schloss, New York.
99 *Studies of Malaria in Panama: 1.—Clinical Studies of Malaria in the White Race. W. V. Brem, Cristobal, Canal Zone.
100 Pernicious Anemia Mistaken for Amebic Ulcerative Colitis. W. W. Herrick, New York.
101 The Duodenal Contents in Man. M. Einhorn and J. Rosenbloom, New York.
102 *Human and Animal Typhoid Agglutinins. R. S. Austin and C. Frothingham, Jr., Boston.
103 Cutaneous and Conjunctival Tuberculin Tests in the Diagnosis of Pulmonary Tuberculosis. L. Hamman and S. Wolman, Baltimore.
104 Histologic Study of the Sweat Glands in Cases of Chronic Nephritis. H. U. Williams, Buffalo, N. Y.
105 *The Lenticular Zone and Anarthria. A. Gordon, Philadelphia.
106 *A Quick Macroscopic Typhoid Agglutination Test. C. C. Bass and J. A. Watkins, New Orleans.

96. **Chlorids in Stomach Contents of Infants.**—The observations recorded in Wentworth's paper are a continuation of work briefly alluded to in a previous article. The purpose of this work is to discover whether or not the hydrochloric acid of the gastric juice is diminished in cases of infantile atrophy. In the first series of observations, the stomach contents were obtained one hour after eating from a limited number of atrophic infants fed on mixtures of cow's milk. The determinations were made by Sjöquist's method. The results showed a diminished amount of hydrochloric acid in the stomach contents in every case. The same series of observations included determinations of hydrochloric acid in the stomach contents from a limited number of well-nourished and apparently healthy infants fed on mixtures of cow's milk. The results in these cases were variable. In four cases the amount of hydrochloric acid was much greater than in the cases of atrophy. In three cases the amount of hydrochloric acid approximated that of the atrophic infants.

As these results were not conclusive, a second series of observations were made with a view to controlling the first series. The same method of analysis was employed. Unfiltered stomach contents were used in every case. The diagnosis of infantile atrophy was made from clinical evidence alone. Most of the cases were under observation for several weeks. The Sjöquist method rarely showed more than a trace of hydrochloric acid in the stomach contents from atrophic infants fed on cow's milk mixtures. Out of twenty one determinations made of hydrochloric acid in the stomach contents obtained from eight infants, ten showed a percentage of hydrochloric acid between 0.01 and 0.05, and eleven showed a percentage of hydrochloric acid between 0.002 and 0.009. The stomach contents from nine well-nourished infants showed a diminished amount of hydrochloric acid. The diminution of hydrochloric acid corresponded closely to that found in about one-half of the determinations made on the above-mentioned atrophic infants. Out of twelve determinations of hydrochloric acid in the stomach contents obtained from nine infants, one showed 0.12 per cent., one showed 0.09 per cent., nine showed percentages between 0.01 and 0.05, and one showed 0.005 per cent. hydrochloric acid. Thus the diminution of hydrochloric acid, although it was marked, was never so extreme as in one-half of the determinations obtained from atrophic infants. Examinations of the stomach contents obtained from the same atrophic infants at different periods of time after eating, and without any change in the diet, rarely showed any marked variations in the quantity of hydrochloric acid present.

Wentworth does not believe that the results of these observations prove that a marked diminution of hydrochloric acid in the gastric juice is an essential factor in the production of infantile atrophy, although they do show that this diminution is constant. On the other hand, considerable evidence is afforded by several of the observations that it is possible for atrophic infants to gain rapidly in weight and yet produce little hydrochloric acid in the gastric juice. This appears to show that the quantity of hydrochloric acid in the gastric juice is not an important factor in recovery from infantile atrophy.

98. **Normal Percentages of Leukocytes in Children.**—A series of differential blood-counts were made by Schloss on eighty apparently normal infants and in children between 3 and 12 years of age. The investigation was undertaken primarily to determine, if possible, the normal percentages of the cells with eosinophilic granules. Most of the children were from the poorer classes, but all cases of manifest illness were excluded. Cases were also excluded in which there was a

history of any disease recognized as a cause of eosinophilia. The following precautions were taken in the attempt to eliminate helminthiasis: The counts on children between 1 and 12 years of age were made only in instances in which the history and a previous examination of the feces was negative. In infants under 1 year of age, the feces were examined in cases showing more than 5 per cent. of eosinophil cells. The eosinophil cells were over 6 per cent. in seven of fifteen infants under 2 months of age; the highest percentage was 9.7. In two additional cases the percentage was greater than 5; in one, 5.2 per cent; in another, 5.3 per cent. The highest percentages were found in infants between 2 days and 2 weeks of age. In none of the fifty-five infants and children between 2 months and 12 years of age was the percentage of the eosinophil cells above 6. In two cases the eosinophil cells were 6 per cent. In all other cases the percentage was less than 5. In apparently normal infants from 3 days to 2 months of age, the eosinophil cells were frequently above the percentages normal for adults. In normal individuals between 2 months and 12 years of age, when the known causes of eosinophilia were excluded, the eosinophil cells were rarely above 5 per cent. and never greater than 6 per cent., and were present in approximately the same relative proportion as in adults. It therefore only seems fair to conclude, says Schloss, that there is no physiologic eosinophilia in childhood; that 5 per cent. of eosinophil cells may be considered as the upper limit of normal, and certainly, more than 6 per cent. as pathologic.

99. **Malaria in Panama.**—In the "white fever wards" of Ancon Hospital, during 1905 and 1906, 1,107 of 1,300 patients were malarial, a morbidity of 85 per cent. The malarial mortality was 0.54 per cent.; the mortality from other diseases, 4.6 per cent., or about nine times that of malaria. Malarial parasites were found in the peripheral blood of 705 patients, or 63.7 per cent. of the malarial cases. The estivo-autumnal parasite alone was diagnosed 447 times, or in 63.4 per cent. of the positive cases; the tertian alone, 232 times, or in 32.9 per cent.; mixed infections with estivo-autumnal and tertian organisms were found in 26 cases, 3.7 per cent. No quartan organisms were found in this series. The estivo-autumnal percentage is probably slightly too small, and the tertian too large. Three systems of quinin administration were tested: (1) 30 grains daily, 3 doses of 10 grains each, at 6, 8 and 10 a. m.; (2) from 30 to 40 grains daily, given in 5-grain doses every 4 hours, with 2 extra doses of 5 grains each given in obstinate cases before the approximate time for the onset of paroxysms, at 10 a. m. and 2 p. m.; (3) 20 grains daily, 2 doses of 10 grains each, at 6 and 8 p. m. The febrile period was approximately equal under Systems 1 and 2; it was much longer under System 3. All things considered, System 1 seemed to be preferable for the treatment of ordinary infections in male adults.

Several points are emphasized by Brem. The great majority of malarial paroxysms, both estivo-autumnal and tertian, occurred between the hours of 8 a. m. and 8 p. m. Acquired partial immunity or tolerance for the malarial poison is marked after the first infection. The febrile period and the severity of the symptoms decrease markedly after the first attack, remain approximately stationary in the second, third and fourth attacks and then undergo another marked decrease. For the quinin diagnosis test, the drug should be given in the doses of Systems 1 and 2 to male adults. In other cases the quantities may be regulated by the weight of the patient. In first attacks of malaria, the fever of two out of three estivo-autumnal infections will reach and remain normal within three days. If a marked remission and a much-decreased fastigium do not occur on the fourth day, the fever is not malarial and quinin may be discontinued. If a remittent or intermittent fever continues unabated for more than four days, it is not of malarial origin. First attacks may show mild or rudimenary paroxysms of fever for six, seven or eight days. In secondary attacks of malaria, fever usually ceases within three days, and a remittent or intermittent fever that persists unabated for three days is not malarial. Four days is the maximum time to persist in the test. All tertian infections are controlled within three days. Great care must be used to insure the absorption of quinin, and the patient must be kept at rest in bed. Chronic malaria and malarial cachexia are much-abused terms; they describe a condition and not a disease, and should be used only in elaboration of a diagnosis of malarial fever, for which proper cause should be shown. If parasites are not demonstrable and if careful examinations appear to exclude other diseases, the quinin test may be used in malarious regions. If an anemic (cachectic) condition is due to malaria, a partial immunity or tolerance has been acquired, and quinin causes a rapid cessation of fever and other symptoms. If these do not disappear within three days, or if the anemic condition does not improve rapidly, malaria is not the origin of the trouble, and another diagnosis must be sought. In using the test, the patient must be kept at rest in bed, and the absorption of quinin must be assured.

102. **Human and Animal Agglutinins.**—The points brought out by Austin and Frothingham are: The agglutinating power of the serum in typhoid usually reaches its height in about the third or fourth week. Occasionally at this time a positive reaction will be obtained at a dilution of 1 to 600 or 1 to 800; as a rule, only at a dilution of about 1 to 250. In rabbits, agglutinins can be developed by injecting typhoid bacilli intraperitoneally. These experimentally produced agglutinins apparently can be increased in strength as long as the bacilli are injected. The serum from these rabbits when injected into other rabbits causes a transitory agglutinating power to appear in them. This power appears the first hour after injection, gradually increases in strength until the third hour, then subsides and has disappeared about the seventh hour. These time-relations are practically the same, whether the serum is given subcutaneously or intravenously. The height of the agglutinating power is greater after intravenous than after subcutaneous injection. The agglutinating power in the injected animals is apparently simply a dilution of the agglutinating power injected. Even repeated injections of serum fail to stimulate a rabbit to form agglutinins. If comparison may be drawn from animal experimentation it should be possible in typhoid to administer serum in doses of practical size so as to produce more agglutinating power than ordinarily occurs in the course of the disease. In order to keep up this agglutinating power the serum should be given every few hours. The serum should preferably be given intravenously.

105. **Lenticular Zone and Anarthria.**—A case is reported by Gordon which he believes demonstrates clearly that, while certain features of Marie's revised view on aphasia are not at all in conformity with pathologic findings, there are nevertheless some phases which can be explained, if not totally, at least to a large degree, on the basis of his so-called lenticular zone. The anatomic and clinical conditions of the case are particularly conspicuous with regard to the most important point of Marie's contention, namely, the question of anarthria. The patient presented at the time of his admission to the hospital and for two subsequent months, complete right hemiplegia, alexia and verbal amnesia. The latter two phenomena were not complete. Particularly important was the total absence of motor aphasia and dysarthria. For two months the patient's condition remained unaltered. One morning he was found unconscious and agitated with convulsive movements in his right arm and leg and frothing at the mouth. The attack lasted a minute, but for two subsequent hours the arm and leg remained in a state of extreme rigidity. Moreover, the least touch of the leg or arm would produce a convulsive movement. From the moment he lost consciousness, and during the following twenty-four hours of his life, he presented a conjugate deviation of the head and eyes to the right. An attempt to turn his head to the left would not correct the direction of the eyes. During the first few hours he could not voluntarily turn the head to the left, but in the last few hours he was able to make attempts to do it, but only attempts, as he was unable to hold it in the right direction longer than for a fraction of a minute. The same can be said about the eyes. In addition to this phenomenon, the patient was unable to protrude his tongue, move his lips or utter a word. Soon he presented difficulty of swallowing and on the twenty-fifth hour he expired.

The brain and cord were removed. Destruction of the lenticular and caudate nuclei was complete, and yet the patient did not present the least indication of dysarthria. His speech, so far as the articulation was concerned, was clear and distinct. He did, however, present a partial word-blindness and partial verbal amnesia, all symptoms of sensory aphasia. The few symptoms of sensory aphasia observed in this case correspond in reality to Marie's contention, but are at variance with the old conception concerning Wernicke's zone. The angular gyrus, the supramarginal gyrus, the posterior portions of the first two temporal convolutions, the insula and the frontal convolution, were found intact, macroscopically and microscopically. In support of Marie's conception of sensory aphasia Gordon mentions also the condition of the inferior longitudinal bundle, which was partly destroyed. The conclusion to which this observation leads Gordon is that the so-called lenticular zone of Marie may play a certain but not considerable rôle in sensory aphasia. As to its being a center of anarthria, the present case proves that its destruction does not interfere with phonation and articulation of spoken words. Consequently, if Marie's conception of aphasia may be applicable to a certain series of cases, as he has shown, it does not hold its ground in every case in which the sensory or motor speech may become involved.

106. **Quick Macroscopic Typhoid Agglutination Test.**—The method proposed by Bass and Watkins for making the typhoid agglutination test requires an ordinary microscope slide, or other piece of glass, a surgical needle or other puncture needle, and an ordinary medicine dropper. The material required is 1 drop of a suspension typhoid bacilli. The time required to make the test is less than two minutes. No special bacteriologic or laboratory experience is necessary; and the test, when properly performed by one with even limited experience, is as reliable and accurate as can be made by an expert bacteriologist within an hour with a microscope and the facilities of a laboratory. The test may be made at the bedside in two minutes. The material consists of a suspension of 10,000 million dead typhoid bacilli per cubic centimeter in 1.7 per cent. sodium chlorid solution to which 1 per cent. of liquor formaldehydi is added. The blood is diluted by dissolving it in approximately four times its volume of water. One or 2 drops of this diluted blood are mixed on a microscope slide or other piece of glass, with an equal quantity of test fluid. The slide is tilted from side to side or end to end in order to keep the mixture flowing back and forth. If the reaction is positive, a grayish, mealy sediment appears within one minute; usually in less than that time. This consists of agglutinated bacilli and is easily seen with the unaided eye. It appears in the fluid around the edges first and tends to collect there. If the agitation is continued the clumps increase in size for two or three minutes. With blood that gives a weak reaction the appearance of the sediment is not so rapid as with stronger reacting blood. It is useless, however, to continue the test longer than two minutes, for if the reaction has not occurred in two minutes it will not occur at all. When the reaction is negative, no agglutination occurs, and the mixture remains as clear and unchanged as when placed on the slide.

Therapeutic Gazette, Detroit

December

107 Prospect of Salvarsan Coming into General Use. S. L. Olsho, Philadelphia.
108 Ocular Affections in Cardiovascular Disease. S. D. Risley, Philadelphia.
109 Partial Detachment of a Normally Situated Placenta—Concealed Intra-Uterine Accidental Hemorrhage. W. H. Wells, Philadelphia.
110 Infectious Arthritis. J. W. Torbett, Marlin, Texas.

Chicago Medical Recorder

December

111 Echinococcus Cyst of the Liver. L. A. Greensfelder, Chicago.
112 Use of the Medical Library. B. Holmes, Chicago.
113 Salvarsan. E. H. Mensing, Chicago.
114 Foreign Bodies in the Ear. J. C. Warbrick, Chicago.

Detroit Medical Journal

December

115 Dysmenorrhea. E. T. Abrams, Dollar Bay, Mich.
116 Salvarsan in Syphilis. H. R. Varney and R. C. Jamieson Detroit.

Journal of Abdominal Psychology, Boston

December-January

117 Action of Suggestion in Psychotherapy. E. Jones, Toronto.
118 *Mental Mechanisms in Dementia Præcox. A. Hoch, New York.
119 *Nature and Conception of Dementia Præcox. A. Meyer, Baltimore.

118 and 119. Abstracted in THE JOURNAL, July 16, 1910, p. 248.

Albany Medical Annals

December

120 The Portals of Entry in Tuberculosis. H. Chiari, Strassburg.
121 Problem of the Acute Mental Case. J. M. Moshet, Albany.
122 Anesthesia in Normal Labor. P. T. Harper, New York.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

December

123 *Catalytic Activity of the Blood in the Toxemias of Pregnancy. M. C. Winternitz and F. C. Ainley, Baltimore.
124 Acute Pancreatitis. J. W. Poucher, Poughkeepsie, N. Y.
125 *Cesarean Section by the Small Median Incision Above the Umbilicus. A. B. Davis, New York.
126 Adenocarcinoma of the Kidney. J. G. Sherrill, Louisville, Ky.
127 *Breast of the Expectant Mother: Its Care Before and During the Period of Lactation. F. Reder, St. Louis.
128 Progress of the Year in Gynecology. S. M. Brickner, New York.
129 Progress of the Year in Obstetrics. G. L. Brodhead, New York.
130 *Acute Hemorrhagic Pancreatitis. J. W. Keefe, Providence, R. I.
131 *Conservatism in Operations on the Uterine Appendages. L. C. Morris, Birmingham, Ala.
132 Pathology of Gynecology and Obstetrics. R. T. Frank, New York.
133 Clinical Aspect of Recent Researches in the Chemical Physiology of Infants. J. Zahorsky, St. Louis.
134 Results of Infant Feeding with Milk from City-Kept Cows. E. V. Davis, Chicago.
135 Method of Feeding of More Importance than Choice of Food in Substitute Feeding of Infants. C. Douglas, Detroit.
136 Nasal Diphtheria in Infants. G. D. Scott, New York.

123. **Catalytic Activity of the Blood.**—In the hope of being able to demonstrate the presence or absence of renal insufficiency in the various types of toxemia of pregnancy, Winternitz and Ainley have determined the catalytic activity of the blood in a number of such cases. They employed a modification of the method described in detail by Kastle and Loevenhardt. Ten clinically normal patients were studied, in each of whom several readings were made at varying intervals before, during and after labor, but in no instance did the readings show any appreciable variation from those noted in normal non-pregnant individuals. Such findings suffice to show that neither pregnancy, labor nor the puerperium produce any appreciable change in the power of the blood to split hydrogen peroxid, which always falls within the limits of physiologic variation. The test was then applied in ten cases of toxemia of pregnancy. In seven the catalytic activity of the blood showed no changes, while in three it was found to be definitely decreased. The results obtained from a study of the catalytic activity of the blood during life and of the tissue extracts, as well as the autopsy findings, are all in agreement. That is to say, there being no renal insufficiency, there was no decrease in the catalytic activity of either the blood or the tissue extracts, which is in marked contrast to the results obtained in the cases of chronic nephritis and uremia, uncomplicated by pregnancy, which have been previously reported. In them, accompanying the renal insufficiency, the authors were able to demonstrate a corresponding decline both in the activity of the blood and of the tissue extracts. In two fatal cases it was positively demonstrated that the patients died of eclampsia; the eclampsia was independent of renal insufficiency; the absence of renal insufficiency, shown before death, by the normal catalytic activity of the blood, was substantiated by autopsy findings. The authors conclude, therefore, that the determination of the catalytic activity of the blood appears to offer a means of differentiating the toxemias of pregnancy into two groups. In certain instances the catalytic activity shows no departure from normal these include cases of eclampsia and other toxemias without marked renal involvement. In certain other cases the catalytic activity of the blood is decreased; these include patients suffering from chronic nephritis in whom the increased work thrown on the kidneys by the pregnancy brings about renal insufficiency, as well as cases of true eclampsia and other toxemias with marked renal involvement.

125, 130 and 131.—Abstracted in THE JOURNAL, Oct. 15, 1910, pp. 1402 and 1403.

127. Abstracted in THE JOURNAL, Oct. 8, 1910, p. 1313.

Denver Medical Times and Utah Medical Journal, Denver

December

137 Some Problems Before the Medical Profession. W. N. Beggs, Denver.
138 Edema of the Glottis. F. E. Waxham, Denver.
139 Mucous Colitis: Etiology and Treatment. H. Heath, Denver.
140 Whooping-Cough. R. J. Smith, Logan, Utah.
141 Medical Education and Legislation. D. C. Budge, Logan, Utah.
142 The Physicians in Ancient Rome. L. Hoefeli.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 10

1 Surgical Versus the Expectant Treatment of Intracranial Tumor. Sir V. Horsley.
2 *Cancer. A. P. Gould.
3 *Results of Bronchial Obstruction. G. N. Pitt.

December 17

4 Plea for Graduation in Laryngo-Otology on a Broad Basis. P. W. Williams.
5 Treatment of Gastric and Duodenal Ulcer. E. C. Hort.
6 Unusual Case of Toxic Dermatitis. C. Pernet.
7 *Variation Among Bacteria. W. J. Wilson.
8 Therapeutic Advantages of Using Mercury in the Colloid Form. G. A. Stephens.
9 Etiology of Iritis. W. M. Beaumont.
10 *Normal Orthograde Posture. R. H. Scanes-Spicer.

2. Also published in the *Lancet*, Dec. 10, 1910. See abstract No. 11.

3. Also published in the *Lancet*, Dec. 10, 1910.

7. **Variation Among Bacteria.**—Wilson isolated a bacillus from the urine of a patient, which is interesting from the fact that it possesses characters intermediate between those possessed by the *B. typhosus* and the *B. coli communis*. The patient was probably an "effective" typhoid bacillus-carrier. Four years ago an epidemic of typhoid occurred in a fashionable district of Belfast, and the cases were centered around a certain milk supply. On investigation, it was found that one of the milkers had recently suffered from "influenza," complicated with jaundice, and her blood gave a well-marked positive Widal reaction in a 1 to 50 dilution. When the supply of milk from this dairy was stopped, the epidemic came to an end. There were thirty cases reported, several of which terminated fatally. This woman developed Bright's disease from which she died. Wilson obtained a specimen of the urine a week before she died, and it was from it that he isolated a bacillus which formed acid but no gas in glucose media, and which fermented lactose at 22 C. but not at 37 C. In not developing gas in glucose media but forming some from mannite it resembled certain colon bacilli of the "anaerogenes" class previously described by Wilson, and which form connecting links between the *B. coli* and the *B. typhosus* group of microorganisms.

10. **The Normal Orthograde Posture.**—The normal orthograde posture is defined by Scanes-Spicer as that in which the center of gravity of the head is vertically over the center of the base of support. The vertical plumb-line joining these points bisects the median transverse occipito condyloid axis, and also the intercotyloid axis, passing through also the center of gravity of the mass made up of the trunk and upper limbs. The center of gravity of the head, that of the trunk, and the center of the base of support, are actively distanced as much as possible from each other by fullest possible extension of the vertical axis in which the above points lie with each in-breath until the extension becomes automatic and unconscious. This posture, Scanes-Spicer says, should be the basis of all physical education for the young. It is the ideal we should seek for every child, the one we should endeavor to get stereotyped by growth in form and structure, the one to which such child should automatically return after action or relaxation. The subject trained thus has an easy and graceful carriage, a straight back, well-poised head, a raised, expanded and mobile thorax well distanced from the pelvis, a flat abdomen, and all the internal organs in constant correct position for best work. The postures permitted and taught by some physical culturists with retracted head, stiff neck, protruded abdomen, hollowed back, and bent knees, do not comply with this definition, and are absolute caricatures of the normal erect posture, and directly produce deformity and disease. Moreover, the normal erect posture is the fundamental essential for all efficient respiration, correct voice production and speaking. Lastly, the influence of the normal erect posture in the prevention and treatment of disease is of a potency as yet but barely suspected.

Lancet, London

December 10

11 *Cancer. A. P. Gould.
12 Results of Bronchial Obstruction. G. N. Pitt.
13 Theory and Practice of the Treatment of Syphilis with Salvarsan ("606"). J. McIntosh and P. Fildes.
14 *A Pedigree Showing Biparental Inheritance of Webbed Toes. H. P. Newsholme.
15 *An Obscure Case of Peritonitis. R. H. Norman.
16 Uterine Cervical Polypus Undergoing Malignant Degeneration. H. Macnaughton-Jones.

December 17

17 The Aftermath of Eyestrain. S. Stephenson.
18 *Specific Diagnosis of Pulmonary Tuberculosis. A. C. Inman.
19 Tuberculous Meningitis. W. B. Warrington.
20 Etiology of Beriberi. H. Fraser and A. T. Stanton.
21 Primary Carcinoma of the Appendix. A. M. Kennedy.

11. **Cancer.**—Gould makes a brief review of the present status of research into the cause and treatment of cancer. discusses earnestly the so-called cancer immunity, which is evidenced in one or more of the following ways: (1) the power of living cells to conform to the law of normal development and to avoid that increased multiplication, defective differentiation, and tendency to intrude themselves into, and grow in, neighboring cell territories, which together connote cancer; (2) opposition to the intrusion of cancer cells into, and their development in, heterologous tissue; (3) inhibition of the growth of cancer or destruction of living cancer cells. Thus the public has been depressed by the oft-repeated statement that one out of every eight women who reach the age of 35 dies from cancer; and of the men who attain 35 years, one of thirteen dies from cancer. This no doubt is true, but why, asks Gould, not express the same facts in terms of immunity, and say that seven out of the eight women and twelve out of thirteen men of 35 years of age will not die from cancer.

Of the second kind of immunity—the opposition to the intrusion of the cancer cells into the heterologous tissue—there is plenty of evidence. There is, first of all, the difficulty in cancer grafting, and then the fate of many of the cancer cells and minute cancer emboli that get into lymphatics and blood capillaries; the majority of them are overwhelmed by the opposing influence of the endothelial cells, and only one here and there is ever able to survive. There is a force of immunity which can protect, against the chief mischievous power of malignancy.

The third form of immunity is what is popularly known as the "cure of cancer"—the disappearance of cancerous growth. Those who are studying the disease in mice report that in these animals it is quite a frequent occurrence for a grafted cancerous growth, after attaining some size, to slowly shrink and disappear, and in some series of experiments a large proportion of the grafts that have "taken" have, after a period of growth, spontaneously vanished. In human pathology, it is a still less frequent fact, but it undoubtedly is observed. It is most frequently seen in the absorption and disappearance of small secondary nodules in the skin and subcutaneous tissue. It is occasionally witnessed on a grander scale. Gould cites nine such cases which occurred in his own practice.

14. **Biparental Inheritance of Webbed Toes.**—It was discovered accidentally by Newsholme, during a routine examination, that the second and third toes of each foot of patient were webbed as far as their terminal phalanges. Further inquiry showed that this deformity occurred through three generations and involved twenty-two members of a family of twenty-nine.

15. **Peritonitis.**—Norman's patient, a man, aged 33, complained of severe continuous pain in the epigastrium, both hypochondria, and the right iliac region. There was no point of special tenderness. He had vomited several times that day, the vomit being gastric only. The abdomen was distended and moved with respiration. Nothing abnormal could be felt. The temperature was 102 F. The bowels were constipated. On the next day he was in much the same condition, the pain being a little less after some small doses of opium. The temperature at 9 p. m. was 104 F. The bowels had been opened by enema, and subsequently two loose, bright yellow motions were passed. The color of these motions suggested typhoid, but no other symptom pointed to that diagnosis. He had been ailing a week or ten days, feeling languid and having a poor appetite, but he kept at his business. A positive Widal reaction was reported. On the third day, the abdomen was much distended, with little or no movement in respiration, general tenderness, but no rigidity. Norman suspected perforative peritonitis, but could not satisfy himself that this was so, the liver dulness being normal. The grave abdominal condition pointed to the immediate need of a celiotomy. This was done but the patient never rallied. A mass of inflamed tissue was found behind the stomach in which were several broken-down caseous glands. There was a cavity in this mass, and from it one sinus led into the stomach. The ulcer in the stomach was not a recent one. Another sinus led to a caseous mesenteric gland, and two others led into the peritoneum. The openings into the peritoneum were apparently recent. There were a number of caseous mesenteric glands, and acute peritonitis was present. The right lung was bound down by old adhesions. There was no evidence of typhoid fever. Fourteen or fifteen years ago tuberculous glands had been removed from the neck.

18. **Pulmonary Tuberculosis.**—Of twenty-six adults examined by Inman, eighteen had tubercle bacilli in the sputum; and of these, sixteen had tubercle bacilli in the feces; in two cases, examination of the feces gave a negative result. Eight of the patients examined had no tubercle bacilli in the sputum, and of these, seven had none in the feces, while in one case tubercle bacilli were found in the feces. Inman believes that these results suggest that the appearance of tubercle bacilli in the stools of early cases of pulmonary tuberculosis, and in the absence of intestinal tuberculosis, results from the swallowing of sputum secreted in an open tuberculous focus in the lungs. Reviewing, as a whole, the positive results of examinations of the opsonic index made with a view to diagnosis, the following four types of variation are defined: A. An index low before, but rising after exercise. B. An index low before and after exercise (insufficient exercise). C. An index high before and falling after exercise. D. An index high before and after exercise.

Taking 250 cases of doubtful pulmonary tuberculosis in which the tuberculo-opsonic index was estimated before and after exercise for diagnostic purposes: The index remained within normal limits in ninety-one cases. The index started low and rose after exercise in fifty-six cases. The index started low and remained low after exercise in forty-one cases. The index started high and fell after exercise in fifty-four cases. The index started high and remained high after exercise in eight cases. So that we have this very striking result: Of 159 cases in which the index varied outside the normal limits, ninety-seven started low, and of these, fifty-six rose as the result of exercise, and forty-one remained low after exercise; sixty-two started high, and of these, fifty-four fell after exercise, and eight remained high. By examining four specimens of blood—the first being taken at rest, the second immediately after exercise, and two more during subsequent rest—it was found that the positive curves conformed in the majority of cases to two types. Those whose index was high in the morning before exercise gave a curve with the apex downward as the result of the exercise, while those with an index starting low in the morning made a curve with the apex pointing upward as the result of exercise.

Inman suggests that the groups A and B point to a localized chronic tuberculous infection, which, however, calls for treatment and must still be regarded as active. The high indices of groups C and D may be regarded as significant of greater activity of disease in that they imply an increase in the elaboration of protective substances in the serum. Inman concludes that in the early diagnosis of pulmonary tuberculosis the recent methods of concentration should always be employed for the exposition of tubercle bacilli in the sputum and feces. The difficulty of interpreting the results of the various tuberculin tests seriously limits their value in the diagnosis of active pulmonary tuberculosis. A positive opsonic index test is of undoubted value in the diagnosis of active pulmonary tuberculosis. A negative opsonic index test must be taken with reserve. The interpretation of the result rests with the clinician, who can take into consideration all the additional factors in the diagnosis of the case.

Journal of Tropical Medicine and Hygiene, London

November 15

22 Experiences in Yucatan. H. Seidelin.
23 Filariasis in Morocco. G. Breeze.
24 Development of "Green-Bottle Fly" at Sierra Leone, West Africa. R. W. Orpen.
25 *Fasciolopsis Buski* in Natal. B. Nicol.
26 Duration of Infection of Malaria. G. C. Low.

Clinical Journal, London

November 23

27 Typhoid. W. H. White.
28 Secondary Cancer of the Ovary. J. Bland-Sutton.
29 Pathology of Certain Ovarian Tumors. B. H. Spilsbury.

November 30

30 Gynecologic Therapeutics. F. McCann.
31 Hemorrhoids. A. Baldwin.
32 Common Operations. H. S. Pendlebury.

Glasgow Medical Journal

December

33 Recent Advances in Hematology. W. K. Hunter.
34 Prophylaxis in Obstetrics. A. W. Russell.
35 Education of the Very Young Deaf Child. J. K. Love.

Medical Press and Circular, London

November 23

36 Common Juvenile Acne. P. Rostaine.
37 *Value of a Restricted Diet in Certain Acute Inflammatory Diseases of the Skin. L. D. Bulkley.
38 *A Dermatitis Among Flower-Pickers in the Scilly Islands, the So-Called "Lily Rash." D. Walsa.
39 Dyspepsia and Gastritis. J. A. Gibson.

November 30

40 Diagnosis of Prolonged Pyrexia. F. Taylor.
41 Tumor in the Region of the Corpora Quadrigemina. R. T. Williamson.
42 Fever from Doubtful or Unknown Causes. H. Plehn.
43 Tabard Street and Grotto Place Unhealthy Homes. F. J. Waldo.

37. This is an abstract of a paper read before the Dermatological Section of the British Medical Association and published in full in the *British Medical Journal*, Sept. 24, 1910.

38. Also published in the *British Medical Journal*, Sept. 24, 1910.

Annales de Gynécologie et d'Obstétrique, Paris

December, XXXVII, Nos. 11-12, pp. 721-864

44 *Uncontrollable Vomiting of Pregnancy. (Pathogénie et traitement des vomissements incoercibles de la grossesse.) G. Fieux.
45 Relations Between Cholelithiasis, Pregnancy and Delivery. J. Audebert and R. Gilles.

44. **Pernicious Vomiting of Pregnancy.**—Fieux declares that the vomiting for which the pregnancy is directly responsible seems to be restricted to the first weeks up to the end of the fourth month. The vomiting which occurs toward the end is due to an entirely different form of toxemia, he thinks. Hypotension is the rule in the early vomiting, while those women developing an eclamptic condition have hypertension. His experiments suggest that the villi of the chorion in the first months of pregnancy induce the production of an antibody which can be revealed by the complement-deviation test during the second and third months, but the findings are negative after the fourth. In certain cases, the tendency to vomiting persists from a psychic automatic action; the neuropath continues to vomit because this early symptom, combined with the idea of being pregnant, has induced a kind of obsession. It is in such cases, he declares, that institutional treatment and isolation are specially useful. In all cases, he continues, the diet should be carefully supervised; sometimes

milk by the teaspoonful may tide the patient past the danger point, or vegetable soups may be better tolerated. In some cases he has had patients retain and thrive on a little sheep brain, thoroughly boiled, mashed and mixed with a lemon-water-ice (*sorbet*), when milk was not retained. Fluids should be supplied in abundance even if infusion is necessary. The main point is to give the patients time to conquer the tendency to vomit by their own reactional resources, as the physician has no direct means of curing the evil tendency. Retention of urine and possibly also a pulse-rate persistently over 100, are important signs that the patient must be relieved at once of the pregnancy. Signs of polyneuritis or jaundice compel immediate evacuation of the uterus, he declares, as they show that the toxemia is getting the upper hand, and he advises against waiting too long. He warns that vomiting during pregnancy must not be confounded with the vomiting of pregnancy; some intercurrent affection may be discovered. He thinks that Copeman's method acts by suggestion; it aims to change conditions by slight dilatation of the uterine cervix with the fingers, detaching the inferior pole of the ovum. He advocates emptying the uterus even in the most apparently desperate cases, as he has witnessed actual resurrections when all seemed lost.

Annales de Médecine et Chirurgie Infantiles, Paris

November 15, XIV, No. 22, pp. 689-724

46 *The Dwelling and the Health of Children. P. Lassablière and E. Schatzmann.
47 School Desks. (Le mobilier scolaire au dernier congrès d'hygiène scolaire.) F. de Courmelles.

46. **The Dwelling and the Health of Children.**—Lassablière and Schatzmann give the details resulting from careful study of conditions in fifteen families of the working classes. The morbidity was in inverse proportion to the size and number of rooms, and the absence of sunlight and defective ventilation give the results that might naturally be expected.

Bulletin de l'Académie de Médecine, Paris

November 22, LXXIV, No. 37, pp. 339-357

48 Reportable Infectious Diseases in the French Colonies. H. Vincent.
49 Necessity for Compulsory Notification of Paratyphoid Fever. H. Vincent.

Presse Médicale, Paris

November 30, XVIII, No. 96, pp. 897-904

50 *Syphilitic Mediastinitis. M. Dieulafoy.

December 3, No. 97, pp. 905-920

51 Tarsalgia in the Adolescent Not an Attenuated Tuberculosis. A. Broca and E. Levy.

December 7, No. 98, pp. 921-928

52 History of Endocarditis with Acute Rheumatism. A. Chauffard.
53 *Minor Signs of Malta Fever. P. Darbois.

50. **Syphilitic Mediastinitis.**—The only testimony as to the syphilitic nature of the puzzling syndrome observed was the prompt recovery under mercury. There were no signs or history of syphilis and the symptoms indicated severe compression of organs by a tumor in the vicinity of the superior vena cava. The patient was a man of 63, supposedly healthy until the last year. The symptoms from the assumed tumor in the mediastinum growing worse, an operation was decided on but was preceded by a tentative course of mercury; in less than a month there was complete recovery. The case is another example, the author states, of the protean manifestations of ignored syphilis. Dieulafoy makes it a rule now to give mercury in every organic lesion whose cause cannot be detected, regardless of the Wassermann findings.

53. **Minor Signs of Malta Fever.**—Among the symptoms which are not generally known are a mild orchitis; four or five sweats during the night, the sweat frequently being fetid and soaking the mattress; constipation, sometimes alternating with profuse diarrhea the moment the sweats stop; fleeting pains or the pain may be localized in the heels, sacro-iliac articulation or epigastrium; there may also be falling of the hair, both on the head and body, and in the intervals between the acute exacerbations there may be desquamation without preceding erythema. When the disease drags along for months, there may be localized edema and the limb involved feels intensely cold or the patient may feel chilly all over most of the time. Darbois calls attention to these minor signs of the infection as an aid when the diagnosis is dubious.

Semaine Médicale, Paris

December 14, XXX, No. 50, pp. 585-594

54 *Paraplegic Dementia from Chronic Cortical Encephalitis. (Nouveau syndrome anatomo-clinique.) G. Deny and J. Lhermitte.

54. **Non-Senile Paraplegic Dementia.**—Deny and Lhermitte report the clinical and anatomic details of a case of dementia with progressive paraplegia due to a chronic cortical encephalitis. The lesions and symptoms resembled those of paraplegic dementia resulting from patches of softening of the brain, and they differ completely from the lesions of senile paraplegic dementia. The patient was a woman of 48 and the first symptoms had been observed nearly two years before death.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVIII, No. 1, pp. 1-173. Last indexed Dec. 10, 1910, p. 2100

55 *The Two Weak Points in the Mediastinum. (Die "schwachen Stellen" des Mediastinums und ihre klinische Bedeutung bei pleuritischen Exsudat with Emphysema.) G. Nitsch.
56 Spontaneous Pneumothorax with Emphysema. H. Bach.
57 *Quantitative, "Titration" Cutaneous Tuberculin Reaction. W. Mirauer.
58 *Artificial Pneumothorax in Pulmonary Tuberculosis. K. Wellmann.
59 Experimental Research on Effects of Artificial Pneumothorax. (Zur Kollapstherapie der Lungentuberkulose.) E. Ruediger.
60 *Comparative Value of Cutaneous and Conjunctival Tuberculin Tests in Children. E. Feer.
61 *Inefficiency of Tuberculin Test by the Mouth. (Interne Tuberkulindarreichung zu diagnostischen Zwecken.) F. Hell.
62 *Action of Functional Rest of the Lung on the Extent and Course of Pulmonary Tuberculosis. A. N. Rubel.
63 Immunity of Tuberculous Animals to Tuberculosis Infection by Inhalation. F. Hamburger and T. Toyofuku.
64 The Advantages of the Picrin and Antiformin Methods for Microscopic Examination of Sputum. W. Polugorodnik.

55. **The Two Weak Points in the Mediastinum.**—Nitsch refers to the region back of the upper part of the sternum, where the thymus has retrogressed, as the first weak point. The second region is bounded by the spine and aorta at the back and the esophagus and heart in front. He discusses the significance of these weak points in development of pleural effusions and pneumothorax.

57. **Titration Tuberculin Test.**—Mirauer's experience, he states, has confirmed the simplicity and superior advantages of the serial quantitative method for the tuberculin local test, according to the Ellermann and Erlandsen technic. (It was described in THE JOURNAL, May 15, 1909, page 1634.) He declares that it seems to be the best method at our disposal for estimating tuberculous infection in adults, but that as yet, it is scarcely adapted for introduction into general practice. Its chief advantage lies in the possibility of more exact prognosis.

58. **Pneumothorax in Treatment of Pulmonary Tuberculosis.**—Wellmann summarizes the experiences with this measure in twenty-seven cases at the clinic in charge of Matthes at Cologne. The indications were for chronic pneumonia or pulmonary tuberculosis; in thirteen of the cases it was impossible to restrict the pneumothorax solely to the diseased lung. In one case the sound upper lobe of the lung was compressed also without apparent injury. It resumed its function without showing any functional disturbances afterward. On the ground of the experiences related, Wellmann commends this measure for wider adoption; it is liable, he thinks, to prove serviceable while the final judgment can be made only on the basis of more extensive and longer experience.

60. **The Cutaneous and Conjunctival Tuberculin Tests in Children.**—Feer states that the v. Pirquet cutaneous tuberculin test has been applied to 2,000 children at the clinic for children's diseases at Heidelberg, and that its value has been appreciated more and more in the course of this experience. It is especially instructive between the ages of 3 and 5. The reaction is rarely positive at this age but it indicates an active process when it does occur. The conjunctival test was applied in 371 cases: the reaction was positive in only 28 per cent. of the cases of inactive tuberculosis, while it was positive in 78 per cent of the active cases. Thus it points more exclusively to the active processes than the cutaneous reaction,

but this advantage is counterbalanced by the fact that conjunctivitis with phlyctenæ developed in 5 out of the 101 cases giving a positive reaction to the conjunctival test. The lesions all healed in two or three weeks but the fear of this complication led to abandonment of the ocular technic, although in one case phlyctenæ developed after the cutaneous test alone. There were no signs of scrofula in any of these children with phlyctenæ. On the other hand, he has never encountered a typical case of scrofula in which the cutaneous tuberculin test failed to induce a positive reaction.

61. **Internal Tuberculin Test.**—Hell was unable to obtain any evidence of a reaction for diagnostic purposes in twenty-five persons given tuberculin internally, even in amounts up to 80 mg. The Moro tuberculin salve test, applied later, gave a positive reaction in nearly every instance.

62. **Influence of Functional Rest of the Lung on Pulmonary Tuberculosis.**—Rubel's experiments were made on rabbits and dogs, and he immobilized the lung without compression. This was accomplished by passing a wire into the pleural cavity and out again two or three interspaces below. The wire was then drawn tight and tied; this squeezed the enclosed ribs close together, obliterating the interspaces. The result was that this side of the chest lagged behind the other side in respiration and its excursions were hampered. The animals were then infected with tubercle bacilli injected into a vein in the ear. The difference between the operated and unoperated side was striking when the animals were examined after death. Control experiments with uninfected animals and with a dog infected by injection of the culture directly into the lung tissue, all confirmed the fact that functional rest of the lung was responsible for a pronounced retrogression of the tuberculous inflammatory infiltration and that it evidently favored cicatricial transformation of the tubercle. The bacilli seemed to locate on and penetrate into the tissues more readily in the less active lung. The blood-supply to the lung seems to be more profuse the greater the respiratory excursions, and the more active the movements of the lung the greater the dissemination of bacteria from it as the more abundant blood-supply washes them along. The results of the research reported throw light on the question as to the retention and burrowing into the tissues of infectious material brought to the lung in the venous blood, and as to the local anatomic changes that develop in the comparatively quiescent lung.

Berliner klinische Wochenschrift

November 28, XLVII, No. 48, pp. 2177-2224

65 *Progress in Knowledge and Treatment of Necrosis of the Pancreas. H. Coenen.
66 *Buttermilk for Infants with Acute Indigestion. (Säuglingsernährung bei akuten alimentären Störungen.) J. Ritter and W. Buttermilch.
67 The Movements of the Heart and the Electrocardiogram. E. Rautenberg.
68 Improved Gastroscope and Its Findings. H. Elsner.
69 Theory of Anaphylaxis. U. Friedemann.
70 Baseless Claims for a "Non-Toxic Tuberculin." (Das Endotin.) A. Wolff-Eisner.
71 *Kaolin and Carbon Dioxid Snow in Therapeutics. (Erfahrungen über die therapeutische Verwendung von Bolus alba und Kohlensäureschnee.) M. Klotz.
72 Proposed Legislation on Confinement of the Insane. H. Lieske.

65. **Necrosis of the Pancreas.**—Coenen comments approvingly on the increasing tendency toward early operating in acute pancreatitis. Dreesmann found on record in 1909, 118 cases in which an operation was done, with recovery in 45 per cent. The proportion of recoveries was 80 per cent. in the forty cases in which the pancreas had been exposed and tamponed early. Recent research suggests that the necrosis is the result of autolysis from activation of the pancreatic secretion by bacterial action, the bacteria penetrating into the pancreas in infected bile or intestinal juice. The resulting autolysis entails necrosis and the toxic substances then generated seep into the surrounding tissues and induce the severe general symptoms as they are absorbed. The aim in treatment is to expose the diseased pancreas as soon as possible and by packing with gauze to prevent the toxins generated from finding their way into the abdominal cavity. He reports five cases in which treatment on this line proved promptly effectual except in one case in which the pancreas trouble was secondary to a perforated gastric ulcer. The pancreatic secretion drained away in this case amounted daily to a liter or a liter and a half. A gaseous abscess in one of the patients contained nearly 2 liters of gangrenous masses, and in a case reported by Fasano, fully 4 liters. There is no doubt that mild acute pancreatitis can heal spontaneously; the conditions are about the same as with appendicitis. The same surgical principles should prevail for both affections, although early differentiation is more difficult with pancreatitis. The syndrome generally suggests ileus or perforation peritonitis at first.

66. **Feeding of Infants with Acute Indigestion.**—A number of case histories and curves are given to show the advantages of feeding infants suffering from severe acute indigestion with buttermilk, when breast milk is unattainable. The tolerance for carbohydrates seems to suffer first and most, and buttermilk, free from both fat and carbohydrates, seems to be assimilated even by the youngest infants. In the cases reported, it was sweetened with saccharin in some cases and preceded or accompanied by weak tea. The buttermilk must not be either too young or too old, the acidity ranging from 31.6 to 24 (Soxhlet-Henkel) and no peptonizing bacteria should grow on the first plate with the dilution technic. The buttermilk is given unmodified according to indications.

71. **Kaolin and Carbon-Dioxid Snow.**—Klotz found kaolin—bolus alba—superior to other dusting powders for many skin affections on account of its exceptional absorbent properties. It proved especially useful in eczema with much secretion, intertrigo, vulvovaginitis, etc. The experiences with it for internal use were not satisfactory. He also reports the successful application of carbon-dioxid snow in treatment of excessive granulation and subcutaneous tuberculids, tuberculous fistulas and nevus. For small teleangiectasia one minute's application is the limit, and the tolerance of the skin should be cautiously tested.

Correspondenz-Blatt für Schweizer Aerzte, Basel

December 1, XL, No. 34, pp. 1129-1176

73 Internal Secretion and Autolysis. K. Kottmann.
74 Recovery After Removal of Spinal Cord Tubercle. (Subpialer makroskopisch intramedullärer Solitärtuberkle in der Höhe des vierten und fünften Cervicalsegmentes—Operation. Genesung.) O. Veraguth and H. Brun.

Deutsche medizinische Wochenschrift, Berlin

December 1, XXXVI, No. 48, pp. 2225-2272

75 Treatment of Diseases of the Teeth. (Allgemeine Behandlung der Zahnkrankheiten.) W. Dieck.
76 *Recent Progress in Topical Diagnosis of Diseases of the Pons and Medulla Oblongata. A. Wallenberg and O. Marburg.
77 *Technical and Biologic Experiences with Salvarsan. H. C. Plaut.
78 *Cutaneous Bovine Tuberculin Reaction. (Perlsuchtreaktion nach Pirquet.) E. Klose.
79 Dilatation Treatment of Phimosis. (Stumpfe Behandlung der Phimose im Kindesalter.) C. Stuhl.
80 Oxygenated Baths. (Das Sauerstoffbad, seine Wirkungsweise und seine therapeutische Verwendung.) F. Scholz.

December 8, No. 49, pp. 2273-2320

81 Brain Surgery. (Zur Hirnchirurgie.) O. Hildebrand.
82 Atoxyl and Its Derivatives. F. Blumental.
83 Salvarsan in Internal Medicine. L. Michaelis.
84 Salvarsan in Syphilogenous Nervous Disease. H. Oppenheim.
85 Salvarsan in Malaria, Vincent's Angina and Syphilis. T. Rumpel.
86 Salvarsan in Syphilis. C. Stern.
87 Repeated Small Doses of Salvarsan in Syphilis. E. Kromayer.
88 Manufacturers' Directions for Use of Salvarsan. (Vorschriften für die Anwendung des Ehrlich-Hataschen Mittels.)
89 *Operative Treatment of Hay Fever. (Erfolge der operativen Heufieberbehandlung durch Resektion des N. ethmoidalis anterior.) E. Blos.

76. **Topical Diagnosis of Lesions at Base of Brain.**—Wallenberg and Marburg discuss the topical diagnosis of lesions in the pons and medulla oblongata as recent research and experiences have thrown light on the subject. At the same time they say that this more exact localization shows that we can scarcely speak of local symptoms in the narrower sense; the aim is to unravel from the general phenomena those for which certain tracts and centers are responsible; the symptoms themselves are not so instructive, perhaps, as the time when they appear, the subsidence of certain phenomena, their reciprocal influence on each other, and their sequence. Wallenberg declares that further perfecting of clinical methods of investigation will lead to great precision in localization.

77. **Salvarsan in Syphilis.**—Plaut states that softening or necrosis was observed at the point of injection in the breast in eight out of twenty-six patients, and a toxic exanthem in three others, but that these by-effects are counterbalanced by the prompt action of the drug. No effect of any kind was apparent in a case in which the drug was injected in the back.

78. **Bovine Tuberculin Cutaneous Reaction According to v. Pirquet.**—Klose applied the Pirquet technic on 120 children suspected of tuberculosis. Among the seventy-five children with positive findings nearly all presented the typical reaction to both the human and bovine tuberculin; only 9.3 per cent. reacted to human tuberculin alone and only 5.34 to the bovine tuberculin alone. He theorizes on these findings, remarking that the v. Pirquet technic can be regarded as complete only when it is applied with both human and bovine tuberculin. The practical conclusion of this seems to be that the special tuberculin involved should be used in treatment or the one giving the strongest reaction when both give positive results.

89. **Operative Treatment of Hay Fever.**—Blos reports the later history of three patients who seem to have been freed permanently from chronic hay fever and hay asthma by resection of the nasal nerve as it emerges from the anterior ethmoidal foramen. He gives the details of the technic. His results apparently confirm Killian's views summarized in these columns, Nov. 12, 1910, page 1770.

Medizinische Klinik, Berlin

December 4, VI, No. 49, pp. 1921-1964

90 *Acute Heart Disease in Children. (Die akuten Herzkrankheiten im Kindesalter.) F. Göppert.
91 Transmission of Disease in Mines. (Inwieweit findet eine Verbreitung von übertragbaren Krankheiten durch den Kohlenbergbau statt?) H. Bruns.
92 *Dangers of Iodin Therapy. (Gefahren der Jodmedikation, Jodempfindlichkeit und Jodbasedow.) Römheld.
93 *Familial Ataxia. L. Wutscher.
94 Electrolytic Treatment of Atheroma. (Behandlung der Balggeschwülste mittels Electrolyse.) M. Horovitz.
95 Technic for Preparing Emulsion of Salvarsan. S. Jessner.
96 Staining Technic for Gonococci. (Bedeutung der Gramschen Entfärbungsmethode für den Gonokokkennachweis.) E. R. W. Frank.
97 Tropical and Glacial Geological Eras. (Tropenklima und Eiszeiten in der Vergangenheit der Erde.) F. Frech. Commenced in No. 48.

90. **Acute Heart Disease in Children.**—Göppert discusses principally the dubious points in diagnosis and treatment, especially those which may lead to the erroneous assumption of a heart defect in the young. Among them are the heart-lung murmurs which are not due to organic trouble, but appear and disappear during the examination and become inaudible if the breath is held in the expiration position. Lüthje has found systolic murmurs at the pulmonary orifice so often that he declares they are an almost normal occurrence in the development of the child. The murmur varies with the excitement of the child and is characterized by its localization and its inconstancy. In Göppert's experience, a slight impurity in the first sound of the heart has frequently led to the mistaken assumption of an endocarditic murmur, and a duplicated second pulmonal sound is liable to cause unwarranted concern. If no other changes can be discovered in the heart, these murmurs may be regarded as accidental. The pulse-rate is liable to be unusually high in children, sometimes being 100 and over, when the child is examined and over 90 when it is at rest, even up to the age of 10, and the apex in children between 4 and 13 or 15 years old lies farther to the left than in adults. If the child is excited, the findings may be misleading. If the pulse is good Göppert has the child run up two flights of stairs and examines him again as soon as he comes down. With normal conditions the child is only a little out of breath and the increased pulse-rate returns to normal in about three minutes and keeps strong throughout. Sometimes the heart-beat is quieter after the test than before, as the little diversion has tranquilized the child. In a recent case a boy of 10 had been unduly nervous and weakly for a year after a rescue from drowning, and repeatedly, whenever he was examined, his pulse-rate was between 130 and 140, and the apex beat lifted the chest wall in the nipple line. The child was told to run up and down a flight of stairs five times; three minutes afterward the pulse had dropped to 90 and there was not a trace of dyspnea. The boy's heart was evidently sound. In dubious cases the child can be sent up the flight of stairs twice in fifteen minutes. Only when the embarrassed breathing and weaker pulse persist longer than three minutes is the diagnosis of heart weakness from dilatation justified in these cases—not by the mere history of weakness and tendency to attacks of faintness. An hour's rest in bed during the day is generally sufficient to keep such children in good condition, their life otherwise need not be interfered with except that they must avoid long walks and athletic exercises. Göppert warns against the erroneous diagnosis of myocarditis when the pulse is slow and occasionally intermittent. This form of irregularity is comparatively frequent in children, possibly from intestinal reflexes or growth anomalies. Hirsch explains it as an extrasystole. The stair test, Göppert says, is followed by acceleration and normal regularity of the pulse, but the irregularity returns as the effect of the test subsides. This pulse anomaly is very puzzling at times, especially when the child is first seen during an attack of vomiting and constipation. It is still more liable to be misconstrued after an acute infectious disease. During the fever the pulse is regular, and the discovery of irregularity suggests myocarditic mischief. He reports a case in which a youth was dismissed from the military academy on account of the discovery of the supposed myocarditis. It was only with the greatest efforts that he was saved from becoming a "heart hypochondriac," especially as another physician had confirmed the diagnosis of myocarditis. The course of the case finally cleared up the diagnosis. When there is actual heart disease, as after scarlet fever or acute rheumatism, the physician's main task, Göppert reiterates, is to keep the children quiet in bed until all the inflammatory phenomena have subsided. Many children are allowed to be up for weeks when there is still a temperature over 38 C. (100.4 F.); they should be kept in bed until the temperature in the rectum, in bed, remains normal. After the temperature has become normal the child should be allowed to recline out of doors, but it is important to see that the back is well protected with blankets.

92. **Dangers of Iodin Medication.**—Römheld remarks that few realize that iodin and all preparations of iodin, including thyroid tablets, are liable to induce exophthalmic goiter in a patient with a personal or family tendency to goiter and obesity, even when the individual presents no signs of goiter. Every year he encounters cases of incipient or feared arteriosclerosis in which iodin has been given and serious symptoms suggesting exophthalmic goiter have developed. He reports in detail eight cases to sustain his assertion. In six of the cases a latent exophthalmic goiter was aroused and aggravated, and in the others, patients with a family history of goiter developed the exophthalmic syndrome under the iodin. The severity of the symptoms does not seem to stand in any proportion to the amount of iodin taken.

93. **Familial Ataxia.**—Wutscher reports a case in which a girl of 10 presented a typical case of Friedreich's ataxia while her brother, aged 24, developed a typical cerebellar heredo-ataxia of the Marie type.

Münchener medizinische Wochenschrift

November 29, LVII, No. 48, pp. 2505-2560

98 *Research on Saline Infusion. (Einfluss der Kochsalzinfusion.) M. Henkel.
99 Chronic Gastric Ulcer in Roentgen-Ray Picture. (Das chronische Magengeschwür und sein röntgenologischer Nachweis.) H. Rieder.
100 The Liver in Scarlet Fever. (Das klinische Verhalten der Leber bei Scharlach.) W. Hildebrandt.
101 Transmission of Anaphylaxis from Father and Mother to Child. F. Schenk.
102 Value of Relative Leukocyte Count. Hecker.
103 Technic for Intravenous Injection of Salvarsan in Syphilis. T. Hausmann.
104 Salvarsan in Syphilis. Chrzelitzer.
105 Salvarsan in Leprosy. M. Gioseffi.
106 Orthopedic Treatment of Tuberculosis of Ankle. (Fussgelenkstuberkulose.) A. Schanz.
107 Experimental Research on Secretion of Suprarenal Medulla During Gestation. (Zur Adrenalämie des Blutes in der Gestationsperiode des Weibes.) M. Neu.
108 *Treatment of Ataxia. K. Uibeleisen.

98. **Influence of Saline Infusion.**—Henkel discusses some recent communications on the effect of saline infusion as liable to be injurious, but states that his experience has been

the reverse. It seems evident that animals are affected differently from human beings—all his experiences speak in favor of the harmlessness and possible benefit from salt incorporated in various ways, even when the kidneys are decidedly pathologic. Six pregnant women near term were given 10 gm. of salt daily for a month. The urine was examined daily for two weeks and then every third day. In a second group, four pregnant women were given an intravenous injection of 5 c.c. of a 10 per cent. solution, and four others a subcutaneous infusion on three occasions of 1 liter of 1.8 per cent. salt solution every third day. In none of the women was there any evidence of injury and albumin never appeared in the urine; except for increased output of urine there did not seem to be any symptom from the saline infusion. Another woman with parenchymatous nephritis but no edema was given an intravenous injection of 5 gm. of a 5 per cent. salt solution and two days later 5 gm. of a 10 per cent. solution. The Esbach findings previously had been 4 per cent., but notwithstanding the saline infusion the albuminuria constantly declined and the urine was normal in eight days. In another case of nephritis with edema during the puerperium, the 4 per 1,000 albuminuria had subsided by the nineteenth day to mere traces. The woman was then given two intravenous injections of the same amount and concentration as the other patient, but all within twenty-four hours, and no harm resulted. The edema did not return and the urine remained normal. In a still more severe case of nephritis with 8 per 1,000 albumin and changes in the retina, subcutaneous infusion of 1 liter of 1.8 per cent. salt solution increased the output of urine but did not check the progressive subsidence of the albuminuria, which sank to 0.25 per 1,000 by the second day of the puerperium, then 15 gm. of a 10 per cent. salt solution were given at one time. The albuminuria did not increase and the diuresis remained good. In another case a woman at the ninth month of pregnancy, free from albuminuria, was given an intravenous injection of 5 c.c. of a 10 per cent. salt solution, repeated three days later and after the fifth day the same amount of a 20 per cent. solution. There was no albuminuria at any time and the specific gravity of the urine increased only from 1,017 to 1,020. Weichel has recently reported that a 10 per cent. salt solution kills the bacteria of meat poisoning, and Henkel thinks that this confirms the general impression in regard to the direct disinfecting action of salt. He knows of no other disinfectant that can kill bacteria in tissues without injuring the tissue. Many have already witnessed great benefit from saline infusion and the experiences here related supply, he says, the scientific basis for the clinical facts observed. Notwithstanding, therefore, the unfavorable action of salt in experiments on animals, he thinks that there is no reason to refrain from saline infusion in the clinic, not even when there is edema, a heart defect or nephritis. He has made much use of salt in eclampsia, and has never witnessed harm but rather benefit.

108. **Treatment of Ataxia.**—Uibeleisen has found that patients with severe ataxia have more confidence and do the exercises better when standing in water nearly to the chest. The buoyancy of the water helps to make the movements easier. He has a tank set in the floor for the purpose, 4.5 m. long, 1.2 m. deep by 0.68 cm. wide (14 by 4 by 2 feet), with a railing for the stairs leading down into the tank. The railing is continued around the tank about 12 cm. from the top. This supplies a convenient support and the steps are useful when the patient wishes to sit down and rest. If the ataxia involves the arms, the patient is supported by a belt held by the attendant. He says that it is amazing to see how quickly the patients gain confidence as the water buoys up the limbs. As the patient improves, less and less water is allowed in the tank until finally the exercises are done in the empty space. Constant supervision is, of course, indispensable while there is water in the tank.

Wiener klinische Wochenschrift, Vienna

December 1, XXIII, No. 48, pp. 1703-1738

109 *Puncture of Corpus Callosum to Relieve Pressure on the Brain. (Operative Druckentlastung des Gehirnes bei Tumoren und anderen Gehirnkrankheiten.) G. Anton.
110 Defects in Development and Tumors. (Bildungsfehler und Geschwülste.) J. Bartel, K. Einäugler and V. Kollert.
111 Hypertrophy of Heart in Beriberi. (Zur Kenntnis der Entstehungsweise der Herzhypertrophie bei der Beriberi-Krankheit.) Y. Tanaka.
112 Microsporon Alopecia Areata. (Mikrosporie.) M. Schramek.
113 Subsidence of Sarcoma of Prostate Under Endovesical Radium Exposures. R. Paschkis and W. Tittinger.

December 8, No. 49, pp. 1739-1778

114 Prophylaxis of Ophthalmia Neonatorum. (Antrittsvorlesung.) F. Dimmer.
115 Sensory Disturbances in Vitiligo. H. Königstein.
116 Eosinophil Count. (Zählen der eosinophilen Zellen nach der Dungerschen Methode.) A. Galambos.
117 *The Mercury Lamp and Colored Light in Diagnosis. (Diagnostische Verwendung des monochromen und Quecksilberlichtes in der Medizin.) L. Freund.
118 Giant Cells in the Urine as Sign of Urogenital Tuberculosis. (Riesenzellen im Harnsedimente bei Urogenitaltuberculose.) H. Steindl.

109. **Puncture of Corpus Callosum to Relieve Pressure on the Brain.**—Anton summarizes the further experiences with this operative treatment of hydrocephalus, etc., since his last communication on the subject, reviewed in THE JOURNAL, Nov. 13, 1909, page 1638. Bramann has thus operated in 37 cases, the aim being to restore the communication between the anterior horn of the ventricle and the cavities of the brain, imitating the natural process of the opening of the foramen of Magendie to permit passage of fluid from one space to the other. In six cases the operation was done on account of external tumors; in seven for a tumor in the ventricle; in the hypophysis in four cases; for hydrocephalus in twelve, complicated with choked disc in one; for epilepsy in three; for syphilitic meningitis, echinococcus and steeple skull in one case each. The neuritis of the optic nerve retrogressed in twelve cases and was uninfluenced in eight. Coma and stupor subsided at once in fifteen cases. Paralysis, ataxia and contracture were favorably influenced in twenty-one cases. Vertigo and vomiting were arrested in fifteen cases but persisted unmodified in four. There was no operative fatality but one patient with tumor of the hypophysis died in a few days, and nine with brain tumors have succumbed since to other complications. Of the three epileptics, the seizures recurred in one. The results were exceptionally good in the hydrocephalus cases. In case of a brain tumor, the symptoms become much more instructive when those from pressure disappear after puncture. It postpones the danger of blindness so that time can be gained for more exact localization of the tumor. Puncture of the corpus callosum may also prove useful, he thinks, in the course of other operations on the brain, to forestall danger of hernia or laceration. Anton calls attention also to recent research which seems to demonstrate that the cerebral fluid thus dammed up acquires certain special properties which are liable to have a direct therapeutic action when drained into the general circulation. The nerve and other tissues may be suffering from the lack of special elements in the retained cerebral fluid. Experiences related by Roubinovitch suggest that the fluid released by the puncture might be reinjected subcutaneously to aid in restoring the chemical coordination of the organism.

117. **Colored Light in Diagnosis of Eruptions, Etc.**—Freund says that the blue light from a mercury lamp, the yellow light from burning soda and other monochrome lights may reveal slight changes in the skin that escape detection by other means. The colored lights are of not much use for differentiating cutaneous affections, but with them it is possible to seize the faintest, possibly briefly transient eruption or efflorescence and thus permit the correct diagnosis, unattainable in any other way. At the Vienna clinic for syphilis and skin diseases, in charge of Finger, the mercury or soda light is used to reveal red eruptions while the bluish discolorations are sought for with red lithium light or the yellow soda flame. The soda light is obtained by pouring a little soda into a grooved platinum ring fastened in a gas jet or in the flame of a Bunsen burner. Lithium gives a red, and thallium a green light; filtering the light through colored glass also gives interesting findings.

Zentralblatt für Chirurgie, Leipsic

November 19, XXXVII, No. 47, pp. 1489-1520

119 Apparatus for Positive Pressure in the Lungs During General Anesthesia. (Apparat zur Ueberdrucknarkose.) J. Schoemaker.
120 *Adrenalin-Saline Infusion and Chill. (Adrenalin-Kochsalzinfusion und Schüttelfrost.) C. Haeberlin.

November 26, No. 48, pp. 1521-1544

121 Technic for Resection of Spinal Roots. (Zur Technik der Foerster'schen Operation.) N. Guleke.
122 *Technic for Cleft-Palate Operations. (Neues zur Technik der Gaumenspaltoperationen.) C. Helbing and G. v. Lobmayer.

120. **Fatality After Adrenalin-Saline Infusion.**—Haeberlin reports a case of peritonitis in which intravenous infusion of 1,500 c.c. of salt solution to which 8 drops of adrenalin had been added gave immediate relief but was followed an hour later by severe chill and increasing pulse-rate and temperature, with death in less than three hours. He explains this as the result of washing out from the lymphatics the accumulated residual toxins. This sudden flooding of the circulating blood with toxins and their absorption readily explain the symptoms in sepsis under the vasoconstricting action of the adrenalin.

122. **Improved Technic for Cleft Palate Operations.**—Helbing says that by cutting the upper jaw away from the malar bone, it slips forward and closes the cleft. In a case described, he introduced a small chisel into the mouth and cut through the bone transversely above the second premolar tooth, driving in the chisel until its edge could be felt from without at the margin of the orbit. After removal of the chisel, strong pressure on the jaw pushed it inward until the cleft was nearly closed, and the jaw was held in this position by three wires passed through holes bored in the jaw according to Brophy's technic for closing cleft palate in new-born infants. Four days later he completed the operation on the cleft palate in the usual way, except that he used horsehairs instead of silk as they do not swell and particles of food do not cling to them. Since he has been using horsehairs for suturing, he has had no necrosis of the edges; it is impossible to draw these hairs too tight, as they break. In the case described he found that this operation on one side was sufficient, and corrected a tendency to asymmetry. There are no veins nor large vessels to be injured at the point where he applied the chisel, slanting it up toward the outer canthus. The divided jaw healed solidly in its new place, so that by the end of four weeks all was firm again.

Lobmayer stains the threads with the stains used in histologic technic, the colored threads alternating in turn with unstained thread. It is then an easy matter to tie the two ends of the threads without confusion. These stains are not discolored by blood and do not irritate the tissues.

Zentralblatt für Gynäkologie, Leipsic

November 26, XXXIV, No. 48, pp. 1553-1584

123 Tubal Sterilization. R. Asch.
124 Surgical Obstetrics. (Zum Ausbau der chirurgischen Aera in der Geburtshilfe.) E. Solms.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 10, XXXI, No. 135, pp. 1425-1432

125 Organ Extracts Unable to Neutralize Toxicity of Suprarenal Extract. (Tossicita adrenalinica ed estratti organici. A. Farini.

November 15, No. 137, pp. 1449-1456

126 *Major Operations Under Primary Ether Anesthesia. (Contributo clinico all'anestesia generale per mezzo dell'ebbrezza eterea, secondo Sudeck, anche in operazioni di lunga durata.) C. Mariani.

November 17, No. 138, pp. 1457-1464

127 Local Therapeutic Action of Protargol in Stomach and Intestinal Disease. A. Cantani.

November 20, No. 139, pp. 1465-1480

128 *Pseudotumors in the Intestines. F. Ferron.

November 22, No. 140, pp. 1481-1488

129 Flap from Sartorius Muscle to Close Inguinal Canal. (La plastica col sartorio nella cura di certe ernie inguinali.) C. Mantelli.

November 24 No. 141, pp. 1489-1496

130 *Workmen's Compensation. (Liquidazioni d'indennita per gl'infortuni sul lavoro.) G. M. de' Luna.

November 27, No. 142, pp. 1497-1512

131 *Peripleuritis and Parametritis Secondary to Peripheral Suppurative Processes. T. Fiori.

November 29, No. 143, pp. 1513-1520

132 Anaphylaxis from Influenza Toxins. E. Patrone.

126. **Primary Ether Anesthesia for Long Operations.**—Mariani regards as a great advance Sudeck's technic for operating under the first whiffs of ether, profiting by the analgesia during the condition which resembles that of alcohol intoxication so much that he calls it the ether *Rausch*. Mariani has performed thirty-five laparotomies with this anesthesia alone, never letting the patient pass from the stage of "drunkenness" to that of agitation, only giving a few drops when there are signs of returning consciousness. He has also applied this anesthesia technic in five hysterectomies, forty-five herniotomies, in transvesical prostatectomy, numerous gynecologic operations and operations on bones and joints. The advantages of this technic are obvious, he says—no fatality has been known with it since Sudeck introduced it in 1901. The analgesia can be prolonged for an hour and a half or longer. There is less danger of postoperative pneumonia as the patient can swallow as saliva collects in his mouth, while the lesser quantity of the anesthetic used reduces danger from this source. The only disadvantage is that the patients may move and disturb the operator, but a few drops of chloroform stop this.

128. **Pseudotumors in the Intestines.**—Ferron describes four cases in which an exploratory laparotomy was followed by complete cure, the trouble being inflammatory congestion instead of the supposed new growth.

130. **Workmen's Compensation.**—Luna discusses whether it is not possible to estimate with mathematical precision the objective findings after an industrial accident. The trouble has been hitherto that the subjective impressions of the examiner were the bases on which the indemnity was computed, and this led to unscientific estimation of the results of the injury.

131. **Internal Inflammatory Processes Secondary to Peripheral Suppuration.**—In Fiori's first case an abscess developed close to the pleura followed by an abscess adjoining the kidney, the first coming on about a month after a phlegmon on the hand. The patient was a woman of 50. In the second case a paranephritic abscess developed about a month after operative treatment of a felon on the hand. Both patients were cured by prompt operative measures. There can be no doubt of the connection between the peripheral and internal lesion, he is convinced.

Policlinico, Rome

November 13, XVII, No. 46, pp. 1443-1474

133 Experiences with Radiotherapy. G. Scaduto. Commenced in No. 45.

November 20, No. 47, pp. 1475-1506

134 *Implantation of Internal Saphenous Vein in Peritoneum in Treatment of Ascites. F. Fasani-Volarelli.
135 Sarcoma of Pelvic Ligaments. Two Cases. G. de Francisco.

November, Medical Section No. 11, pp. 477-524

136 Changes in Respiratory Rhythm of Nervous and Other Origin. C. Frugoni. Commenced in No. 10.
137 *Lime and Spasmophilia in Children. (A proposito della ipotesi di Stöltzner sulla patogenesi della tetania dei bambini.) A. Longo.
138 Bile Cysts in the Liver. (Studio anatomo-patologico delle cisti biliari del fegato.) A. Nazari.

November, Surgical Section No. 11, pp. 477-524

139 Retrograde Incarceration of the Intestine. (Strozzamento intestinale retrogrado.) A. Passaggi. Commenced in No. 10.
140 Blood Cysts in the Spleen. (Cisti ematiche della milza.) S. Solieri.
141 The Bacteriologic Flora in the Normal Appendix. P. Frascella.

134. **Implantation of the Saphenous Vein in the Peritoneum for Ascites.**—Volarelli reviews the five cases on record in which the internal saphenous vein was implanted in the peritoneum in treatment of ascites. The outcome was a complete success in the three cases in which the saphenous vein was of normal size and permeable. In the two other cases necropsy showed total obstruction or excessively small size of the vein.

137. **Lime in Spasmophilia in Children.**—Longo reports research on the lime content in the blood in infants. In three with pronounced tendency to spasms and convulsions the blood contained lime in a proportion of 0.1662 to 0.252 per 1,000, but it was very nearly within this range in five healthy children—from 0.1406 to 0.2116. He discusses in detail the literature on the subject of lime in connection with spasmophilia, the general consensus of opinion being against Stöltzner's assumption that the tetanoid condition in infancy is due to lime intoxication. On the contrary, lime, he declares, seems to have a beneficial action in spasmophilia.

Riforma Medica, Naples

November 14, XXV, No. 46, pp. 1261-1288

142 Gastric Ulcer. G. Rummo.
143 Hydrochloric-Acid Secretion in Nephritis. G. Tria.
144 Danger of Sowing Cholera Germs from Water-Closets on Trains. (Della seminagione del vibrione del colera lungo le vie ferroviarie.) L. Vincenzi.

Hospitalstidende, Copenhagen

November 9, LIII, No. 45, pp. 1249-1272

145 *Indications and Age for Strabismus Operations. (Skeleoperationen belyst ved Undersøgelser over den sekundære Skelens Patogenese.) H. Rønne. Commenced in No. 44.

November 16, No. 46, pp. 1273-1296

146 Proportion of Hydrogen Ions in Stomach Content. (Brintionkoncentrationen i Mavelndhold.) J. Christiansen.

145. **Indications and Best Time for Strabismus Operations.**—Rønne's article is based on 3,865 operations for squint at the Havnegade ophthalmologic clinic during the last forty years. He advocates an early operation believing that the sooner the parts are placed in an approximately normal condition the sooner normal restitution will occur, and the tabulated outcome in his cases seems to confirm the correctness of this view. None of the arguments against it has any weight, he declares. The early operations did not entail any greater liability to secondary strabismus in his experience. The operation was done on infants under a year old in twelve cases; under 2 years in forty-two; 3 years in 193; up to 4 years in 297; up to 5 years in 355, and up to 6 in 378. From 25 to 30 the operation was done in 130 cases; up to 40 in eighty-two, and up to 50 in sixteen.

Ugeskrift for Læger, Copenhagen

November 24, LXXII, No. 47, pp. 1441-1482

147 Local Anesthesia. C. Wessel. Commenced in No. 46.

December 1, No. 48, pp. 1483-1518

148 History of Arsenic Treatment of Syphilis. (Moderne antisyfilitisk Arsenikbehandlings Forhistorie.) E. Ehlers.
149 *Fatality After Injection of Salvarsan in Case of Paralytic Dementia. A. Jørgensen.
150 Preferable Technic for Gastroenterostomy. A. Pers.

December 8, No. 49, pp. 1519-1568

151 Hospitals in Greenland. (Sygehusforhold iu Grønland.) Fischer-Nielsen.

149. **Fatality After Injection of Salvarsan.**—This seems to be the same case reported by Ehlers and summarized in THE JOURNAL, Nov. 26, 1910, page 1941.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

INDUCED CELL-REPRODUCTION AND CANCER. The Isolation of the Chemical Causes of Normal and of Augmented, Asymmetrical Human Cell Division. By Hugh Campbell Ross, M.R.C.S. (Eng.), Surgeon, Royal Navy (Emergency List). Being the Results of Researches Carried Out by the Author with the Assistance of John Westray Cropper, M.B., Assistant to the Research Department of the Royal Southern Hospital, Liverpool. Cloth. Price, $4.50 net. Pp. 423, with 129 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

A SECOND STUDY OF THE INFLUENCE OF PARENTAL ALCOHOLISM ON THE PHYSIQUE AND ABILITY OF THE OFFSPRING. Eugenics Laboratory Memoirs. XIII. Being a Reply to Certain Medical Critics of the First Memoir and an Examination of the Rebutting Evidence Cited by Them. By Karl Pearson, F.R.S., and Ethel M. Elderton, Galton Research Scholar. University of London. Francis Galton Laboratory for National Eugenics. Paper. Price, 4 shillings. Pp. 35. London: Dulau & Co., Limited, 37 Soho Square, W., 1910.

PELLAGRA. By Dr. A. Marie, Physician to the Asylums, Department of the Seine, Paris, France. With Introductory Notes by Professor Lombroso. Authorized Translation from the French by C. H. Lavinder, M.D., Passed Assistant Surgeon U. S. P. H. and M.-H. Service, and J. W. Babcock, M.D., Physician and Superintendent State Hospital for the Insane, Columbia, S. C. Cloth. Price, $2.50. Pp. 434, with illustrations. Columbia: The State Co., 1910.

ACUTE INTESTINAL TOXEMIA IN INFANTS. An Experimental Investigation of the Etiology and Pathology of Epidemic or Summer Diarrhea. By Ralph Vincent, M.D., Member of the Royal College of Physicians, London. An Address Delivered Before the Glasgow Obstetrical and Gynecologic Society on Nov. 23, 1910. Cloth. Price, 3 shillings 6 pence net. Pp. 83, with 17 illustrations. London: Baillière, Tindall & Cox, 8 Henrietta St., Covent Garden, 1911.

REPORT AND APPEAL OF THE GOVERNORS OF THE ALBANY HOSPITAL. For the Year Ending Oct. 1, 1910. Including the Reports of the Treasurer of the Hospital, the Treasurer of the Endowment Fund, the Superintendent of the Hospital, the List of Annual Contributors, the Medical and Surgical Staff and of the Albany Hospital Training School for Nurses. Paper. Pp. 55. Edmund N. Huyck, Secretary, 319 State Street, Albany, 1910.

THE DETERMINATION OF THE DETERIORATION OF MAIZE, WITH INCIDENTAL REFERENCE TO PELLAGRA. By O. F. Black and C. L. Alsberg, Chemical Biologists, Drug-Plant, Poisonous-Plant, Physiological, and Fermentation Investigations. Issued Dec. 16, 1910. Bull 199, Bureau of Plant Industry, U. S. Department of Agriculture. Paper. Pp. 36. Washington: Government Printing Office, 1910.

THE ANATOMIC HISTOLOGIC PROCESSES OF BRIGHT'S DISEASE AND THEIR RELATION TO THE FUNCTIONAL CHANGES. Lectures Delivered in the Russell Sage Institute of Pathology, City Hospital, New York, during the Winter of 1909. By Horst Oertel, Director of the Russell Sage Institute of Pathology, New York. Cloth. Price, $5 net. Pp. 227, with 45 illustrations. Philadelphia: W. B. Saunders Co., 1910.

THREE CONTRIBUTIONS TO THE SEXUAL THEORY. By Prof. Sigmund Freud, LL.D., Vienna. Authorized Translation by A. A. Brill, M.D., Clinical Assistant, Department of Psychiatry and Neurology, Columbia University. With Introduction by James J. Putnam, M.D. Paper. Price, $2. Pp. 91. New York: The Journal of Nervous and Mental Disease Publishing Co., 1910.

A PRELIMINARY STUDY OF EXTREME ALCOHOLISM IN ADULTS. Eugenics Laboratory Memoirs. XIV. By Amy Barrington and Karl Pearson, F.R.S. With the Asistance of David Heron, D.Sc. University of London. Francis Galton Laboratory for National Eugenics. Paper. Price, 4 shillings. Pp. 55. London: Dulau & Co., Limited, 37 Soho Square, W., 1910.

SALVARSAN OR 606 (DIOXY-DIAMINO-ARSENOBENZOL). Its Chemistry, Pharmacy and Therapeutics. By W. Harrison Martindale, Ph.D., Marburg, and W. Wynn Westcott, M.B., London, H. M. Coroner for North-East London. Cloth. Price, 5 shillings. Pp. 77, with illustrations. London: H. K. Lewis, 136 Gower Street, W. C., 1911.

TRANSACTIONS OF THE EIGHTH ANNUAL CONFERENCE OF STATE AND TERRITORIAL HEALTH OFFICERS WITH THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE. Washington, D. C. April 30, 1910. Public Health Bull. 40. P. H. and M.-H. S. of the United States. Paper. Pp. 101. Washington: Government Printing Office, 1910.

A TEXT-BOOK ON DISEASE-PRODUCING MICROORGANISMS. Especially Intended for the use of Veterinary Students and Practitioners. By Maximilian Herzog, M.D., Professor of Pathology and Bacteriology in the Chicago Veterinary College. Cloth. Price, $4.75 net. Pp. 644, with 238 illustrations. Philadelphia: Lea & Febiger, 1910.

BIBLIOGRAPHIC CONTRIBUTIONS FROM THE LLOYD LIBRARY, CINCINNATI, OHIO. No. 1, January, 1911. Issued quarterly. Catalogue of the Periodical Literature in the Lloyd Library. By Miss Edith Wycoff, Assistant Librarian (in charge of the periodicals). Paper. Pp. 80. Lloyd Library, 309 West Court Street, Cincinnati, Ohio.

PRACTICAL BACTERIOLOGY, BLOOD WORK AND ANIMAL PARASITOLOGY. Including Bacteriologic Keys, Zoölogic Tables and Explanatory Clinical Notes. By E. R. Stitt, M.D., Surgeon, U. S. Navy. Second Edition. Cloth. Price, $1.50 net. Pp. 345, with 91 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

A MANUAL OF DISSECTION AND PRACTICAL ANATOMY OF HEAD AND NECK. For Students, Surgeons and Specialists. By Hubertus J. H. Hoeve, M.D., Professor of Anatomy in the Medical and Dental College of Drake University. Cloth. Price, $5. Pp. 598, with illustrations. H. J. H. Hoeve, Des Moines, Iowa, 1910.

GYNECOLOGIC THERAPEUTICS. By S. Jervois Aarons, M.D., Gynecologist to St. Anthony's Hospital. With Foreword by Sir Halliday Croom, M.D., Professor of Midwifery in the University of Edinburgh. Cloth. Price, $2 net. Pp. 178, with 46 illustrations. New York: William Wood & Co., 1910.

THE TREATMENT OF DISEASE. A Manual of Practical Medicine. By Reynold Webb Wilcox, M.D., Consulting Physician to St. Mark's and to the Nassau Hospital. Third Edition. Cloth. Price, $7.50 net. Pp. 1023, with 11 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

NURSES' HANDBOOK OF DRUGS AND SOLUTIONS. By Julia C. Stimson, R. N., Vassar A.B., Superintendent of Nurses, Harlem Hospital of Bellevue and Allied Hospitals, New York City. Cloth. Price, $1 net. Pp. 82. Boston: Whitcomb & Barrows, 1910.

SECOND ANNUAL REPORT OF THE COMMITTEE ON PREVENTION OF BLINDNESS OF THE NEW YORK ASSOCIATION FOR THE BLIND. Prevention of Blindness. No. 7. Nov. 1, 1910. Paper. Pp. 9. 105 East Twenty-Second Street, New York.

THE THIRD ANNUAL REPORT OF THE COMMISSIONER OF HEALTH OF THE COMMONWEALTH OF PENNSYLVANIA, 1908. Cloth. Pp. 1339. Samuel G. Dixon, Commissioner of Health, Harrisburg, Pa., 1909.

STUDIES IN INVALID OCCUPATION. A Manual for Nurses and Attendants. By Susan E. Tracy. Cloth. Price, $1.50 net. Pp. 175, with illustrations. Boston: Whitcomb & Barrows, 1910.

HISTORY OF THE LIVERPOOL MEDICAL INSTITUTION IN SPECIAL RELATION TO THE QUESTION OF THE LEASE. By Thomas H. Bickerton. Paper. Pp. 39, with illustrations. 1910.

REPORT OF THE COMMISSIONER OF EDUCATION. For the Year End.d June 30, 1910. Vol. I. Cloth. Pp. 662. Washington: Government Printing Office, 1910.

A STUDY OF ASSOCIATION IN INSANITY. By Grace Helen Kent, A.M., and A. J. Rosanoff, M.D., Kings Park State Hospital, N. Y. Paper. Pp. 142. 1910.

DESIGN AND REPRESENTATION. A Handbook for Teachers. Paper. Pp. 34, with illustrations. New York State Educational Department, 1910.